

SOLVED



Ernest W. Lessenger



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Edited by Ernest W. Lessenger

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“The Canterbury Puzzles” was published 1907 by Henry Ernest Dudeney
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Pentominoes

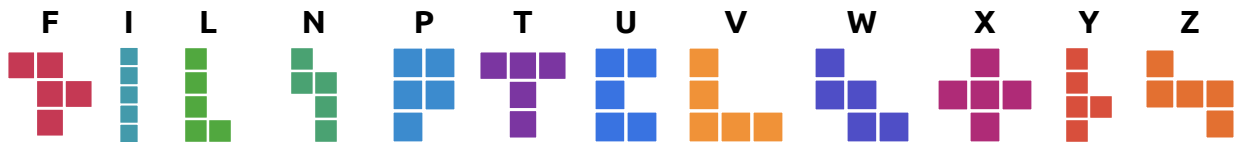
Modern pentominoes were formally described by Solomon W. Golomb at a talk he gave to the Harvard Mathematics Club in 1953. However, though Golomb gave them a name and a mathematical definition, at least one pentomino problem was published by Henry Ernest Dudeney in 1907 in a book of puzzles called the Canterbury Puzzles. Even this puzzle is not technically a "pentomino puzzle" because it includes a single tetromino in the definition:

"The Broken Chessboard" is considered the oldest of the pentomino puzzles and is presented as a story (reproduced on the next page): The dauphin of France and the son of William the Conqueror were playing chess when the dauphin threw the chessboard at his opponent. The son retaliated by breaking the chessboard over the dauphin's head, resulting in thirteen pieces (twelve pentominoes and one tetromino) that had to be put back together.

The 12 Pentominoes

Take five identically-sized squares and position them so that each square shares an edge with one or more of the others. Repeat until you find all such arrangements. Then eliminate any shape that is the same as any other, turned or flipped. In the end, there are 12 distinct pieces: Pentominoes.

Each pentomino piece has a single-letter name that evokes the shape of that piece:



The Solutions

This book contains several popular pentomino puzzles, including the four "basic" rectangles: 6x10, 5x12, 4x15, and 3x20. Every unique solution (excluding flips and rotations) for each puzzle has been included: Some puzzles have only a single solution, while others have hundreds or even thousands.

There are many more puzzles and solutions all over the internet, in academic articles and children's books, in university textbooks, and in the book Polyominoes by Solomon Golomb: Polyominoes, Princeton University Press; 2nd edition 1996, ISBN 0-691-02444-8.

I hope you enjoy this book of "solutions" to the Pentominoes "problem"! If you enjoy the concept, you can easily make your own set out of paper, wood, or any other material - or buy online.

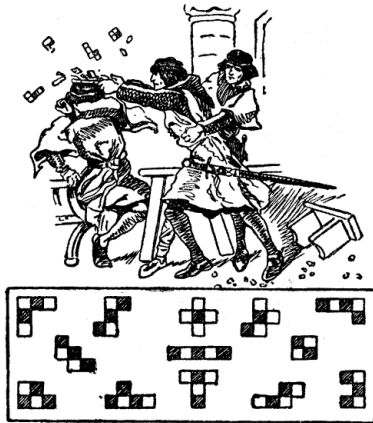
Size	Solutions
3 x 20	2
4 x 15	368
5 x 12	1010
6 x 10	2339

The Broken Chessboard

From: *The Canterbury Puzzles*, by Henry Ernest Dudeney, via Project Gutenberg

There is a story of Prince Henry, son of William the Conqueror, afterwards Henry I., that is so frequently recorded in the old chronicles that it is doubtless authentic. The following version of the incident is taken from Hayward's *Life of William the Conqueror*, published in 1613—

"Towards the end of his reign he appointed his two sonnes Robert and Henry, with joynt authoritie, governours of Normandie;[Pg 120] the one to suppress either the insolence or levitie of the other. These went together to visit the French king lying at Constance: where, entertaining the time with varietie of disports, Henry played with Louis, then Daulphine of France, at chesse, and did win of him very much.



"Hereat Louis beganne to growe warme in words, and was therein little respected by Henry. The great impatience of the one and the small forbearance of the other did strike in the end such a heat between them that Louis threw the chessmen at Henry's face. [Pg 121]

"Henry again stroke Louis with the chessboard, drew blood with the blowe, and had presently slain him upon the place had he not been stayed by his brother Robert.

"Hereupon they presently went to horse, and their spurres claimed so good haste as they recovered

Pontoise, albeit they were sharply pursued by the French."

Now, tradition—on this point not trustworthy—says that the chessboard broke into the thirteen fragments shown in our illustration. It will be seen that there are twelve pieces, all different in shape, each containing five squares, and one little piece of four squares only.

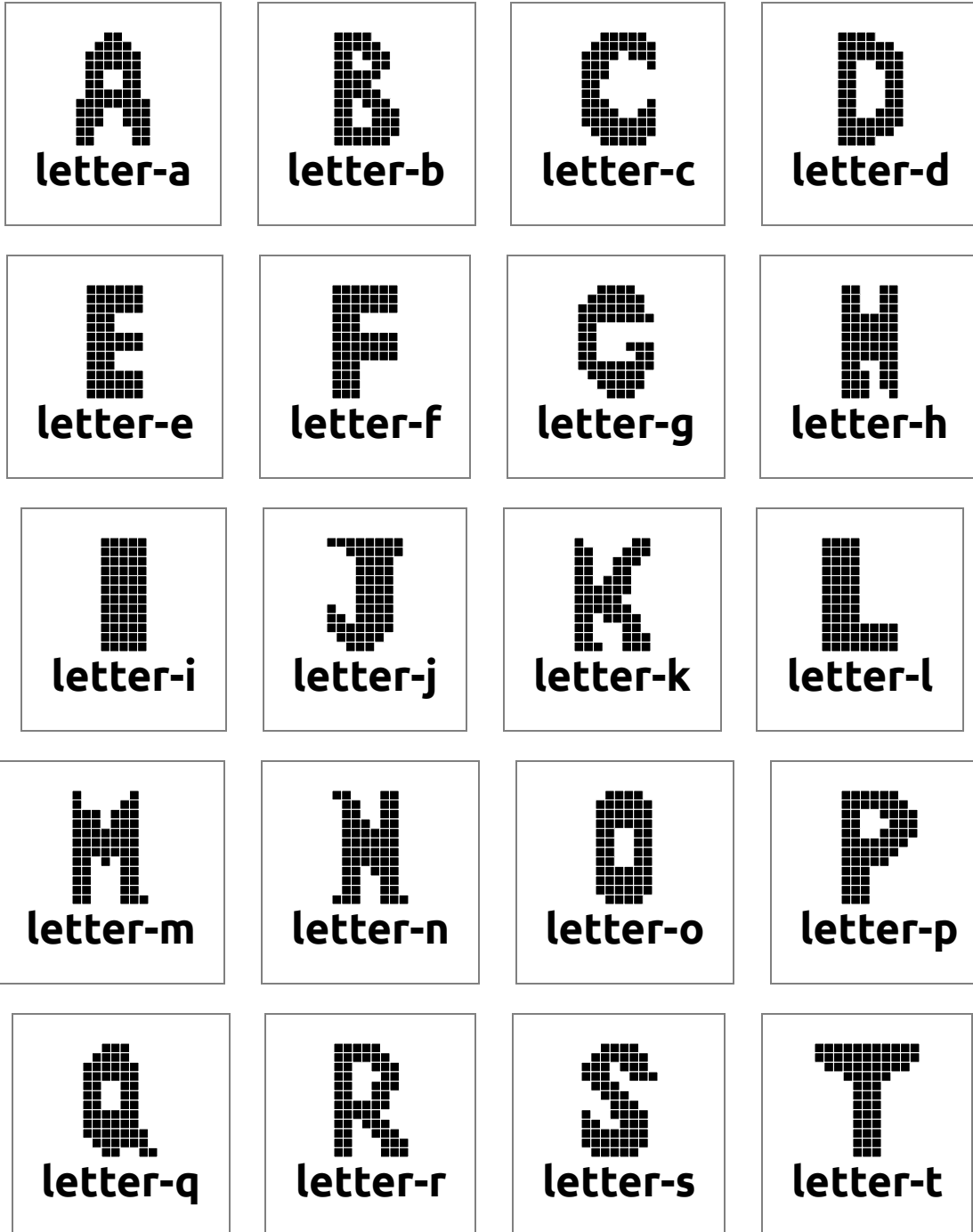
We thus have all the sixty-four squares of the chess-board, and the puzzle is simply to cut them out and fit them together, so as to make a perfect board properly chequered. The pieces may be easily cut out of a sheet of "squared" paper, and, if mounted on cardboard, they will form a source of perpetual amusement in the home.

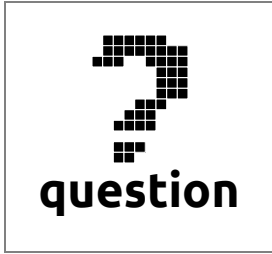
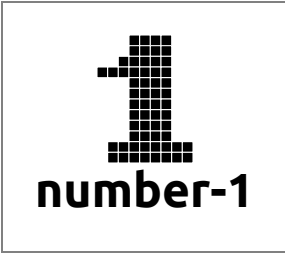
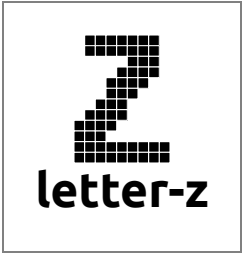
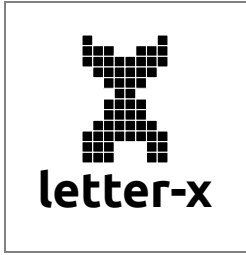
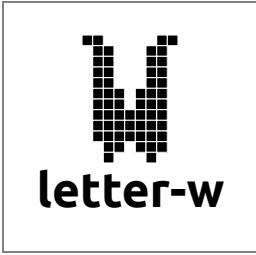
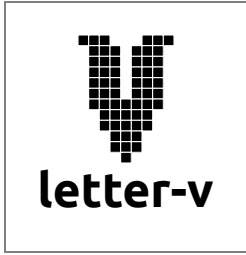
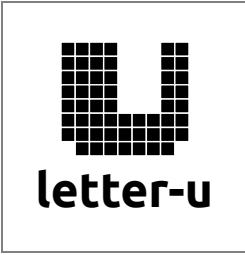
If you succeed in constructing the chessboard, but do not record the arrangement, you will find it just as puzzling the next time you feel disposed to attack it.

Prince Henry himself, with all his skill and learning, would have found it an amusing pastime.

Alphabet

The alphabet made using all 12 Pentominoes for each letter.

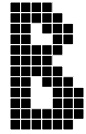






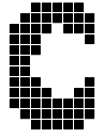
letter-a
1 Solution





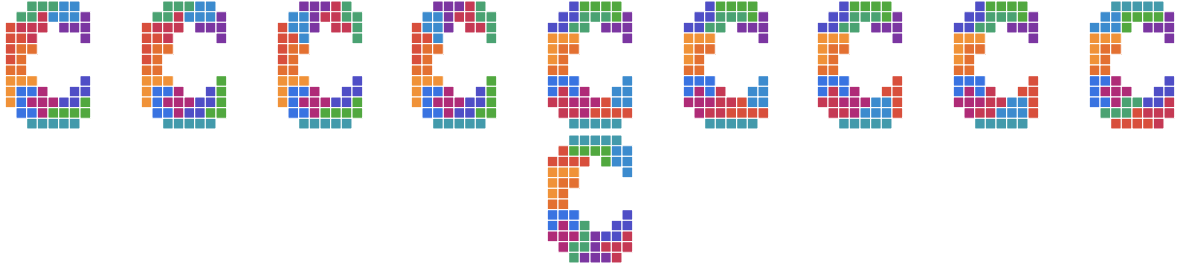
letter-b
1 Solution

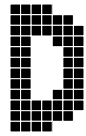




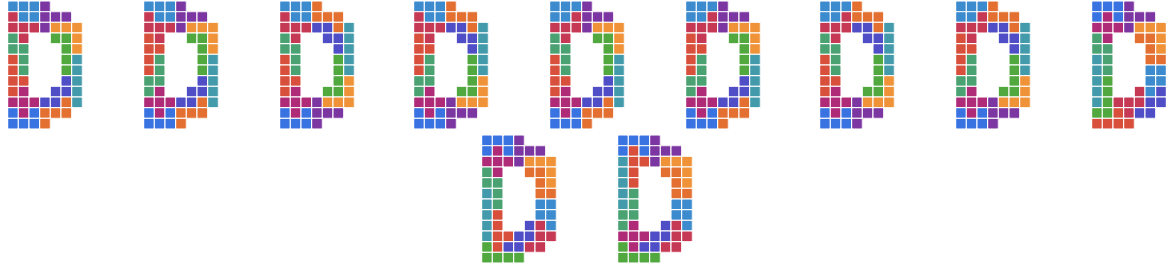
letter-c

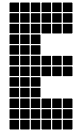
10 Solutions





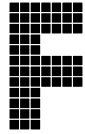
letter-d
11 Solutions





letter-e
3 Solutions

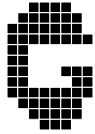




letter-f

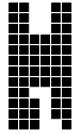
73 Solutions





letter-g
1 Solution





letter-h

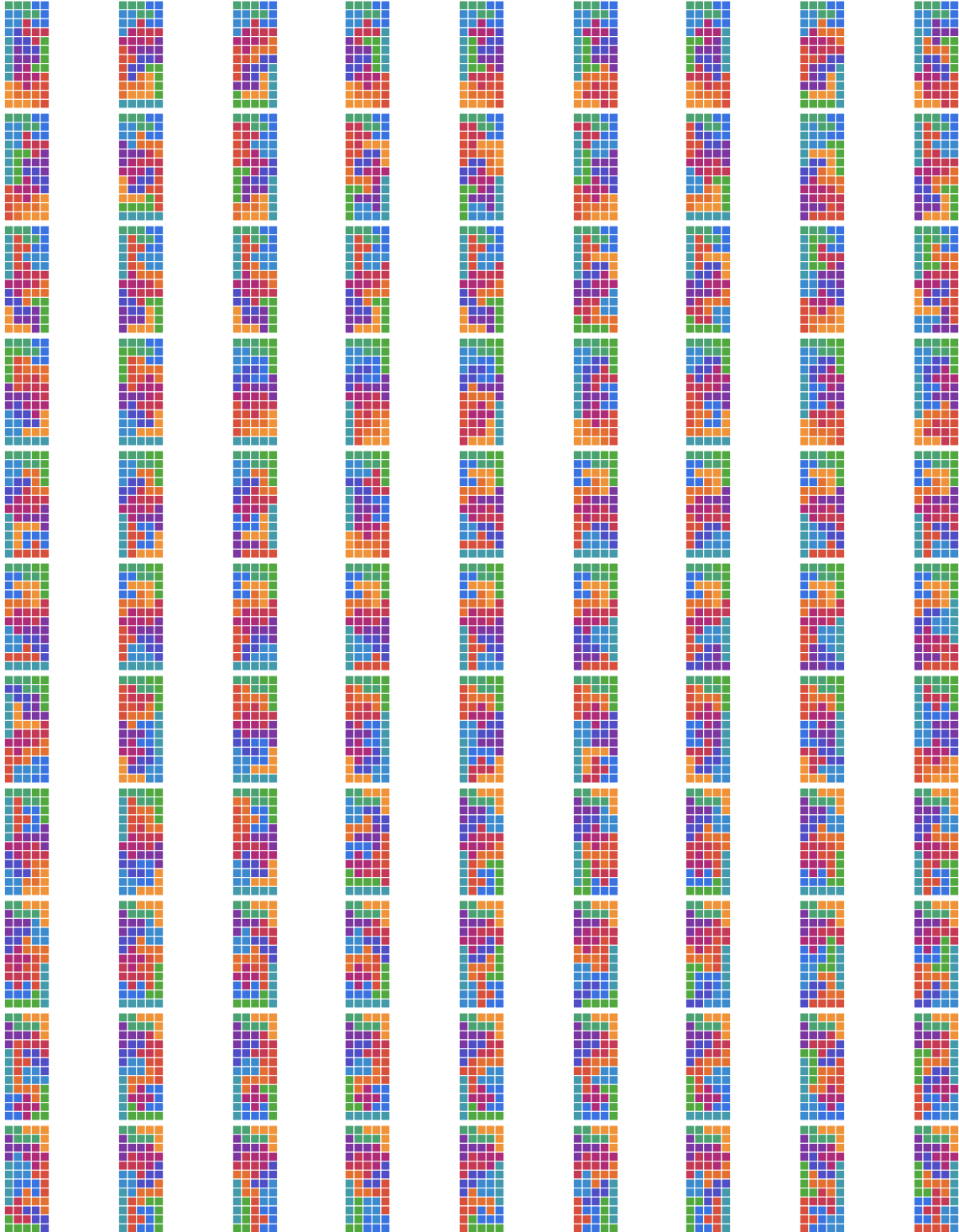
7 Solutions

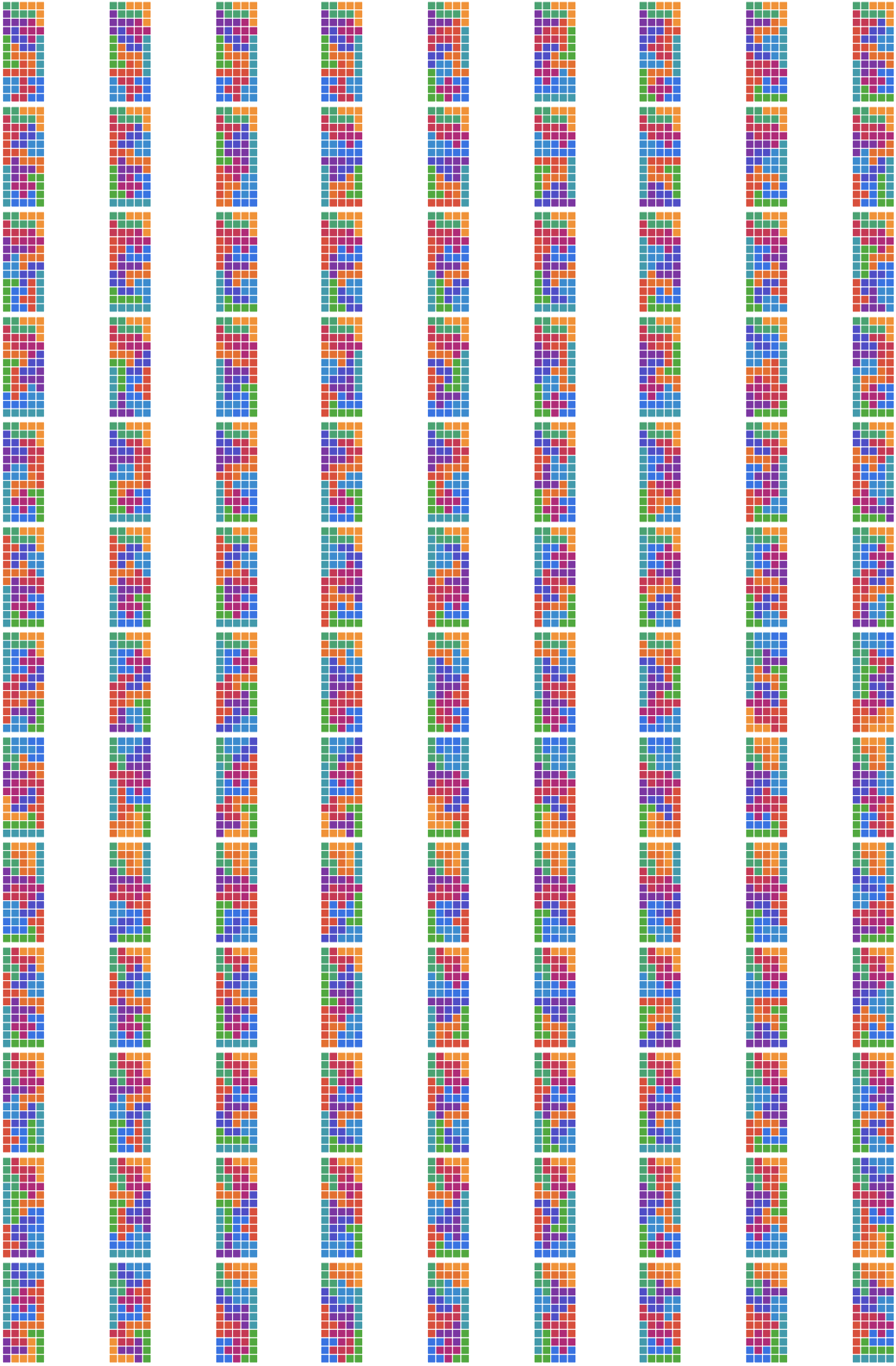


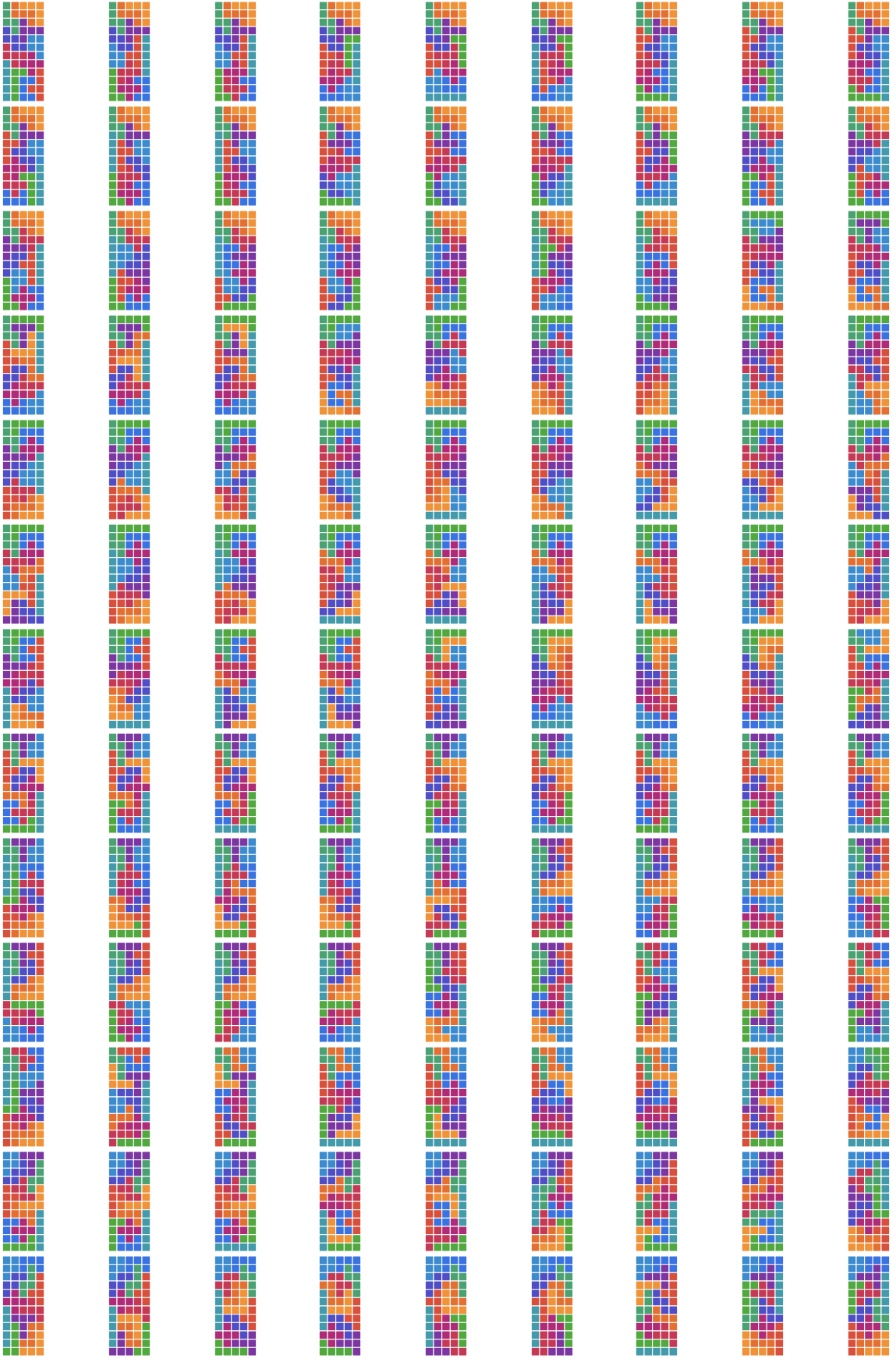


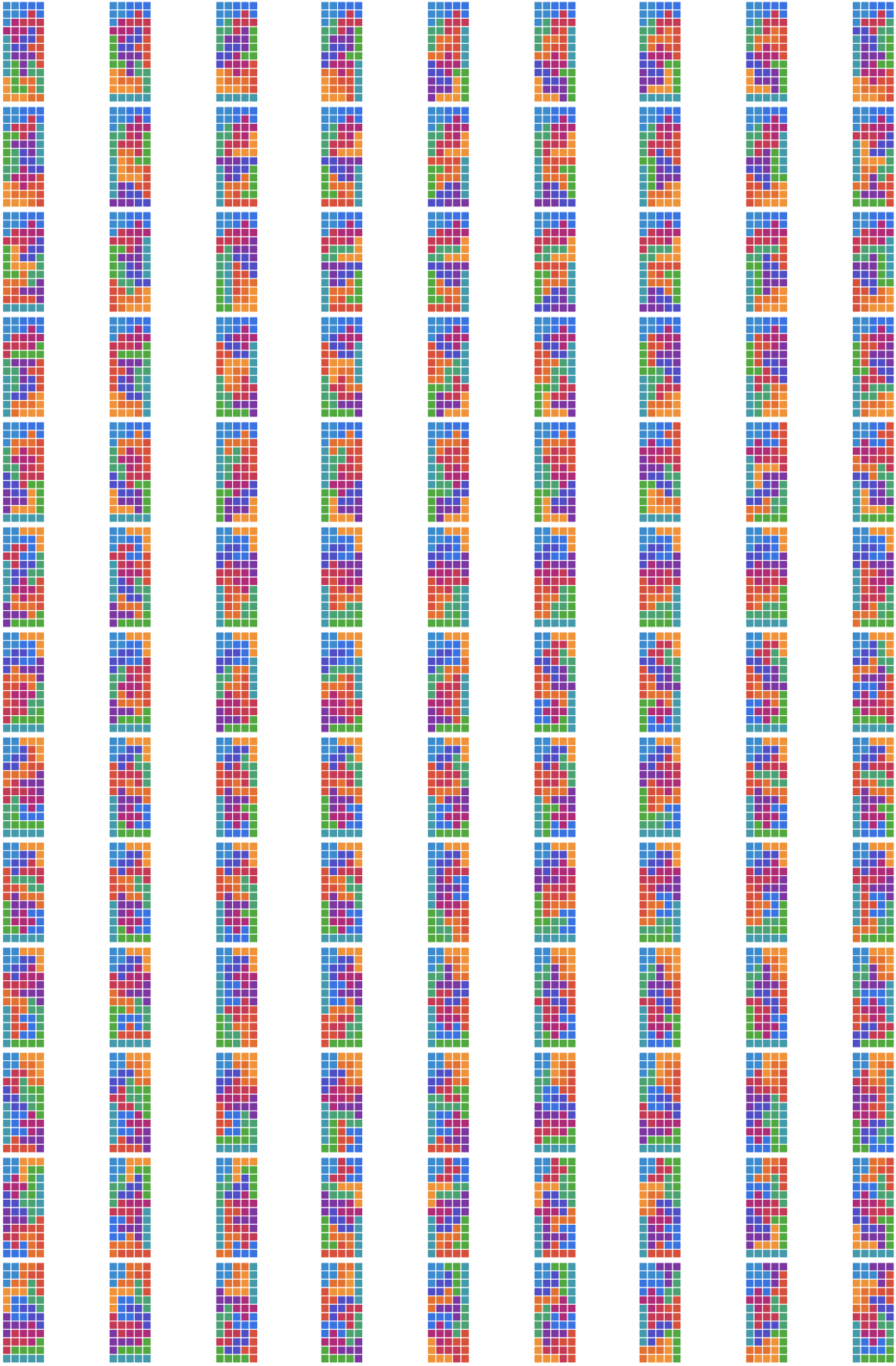
letter-i

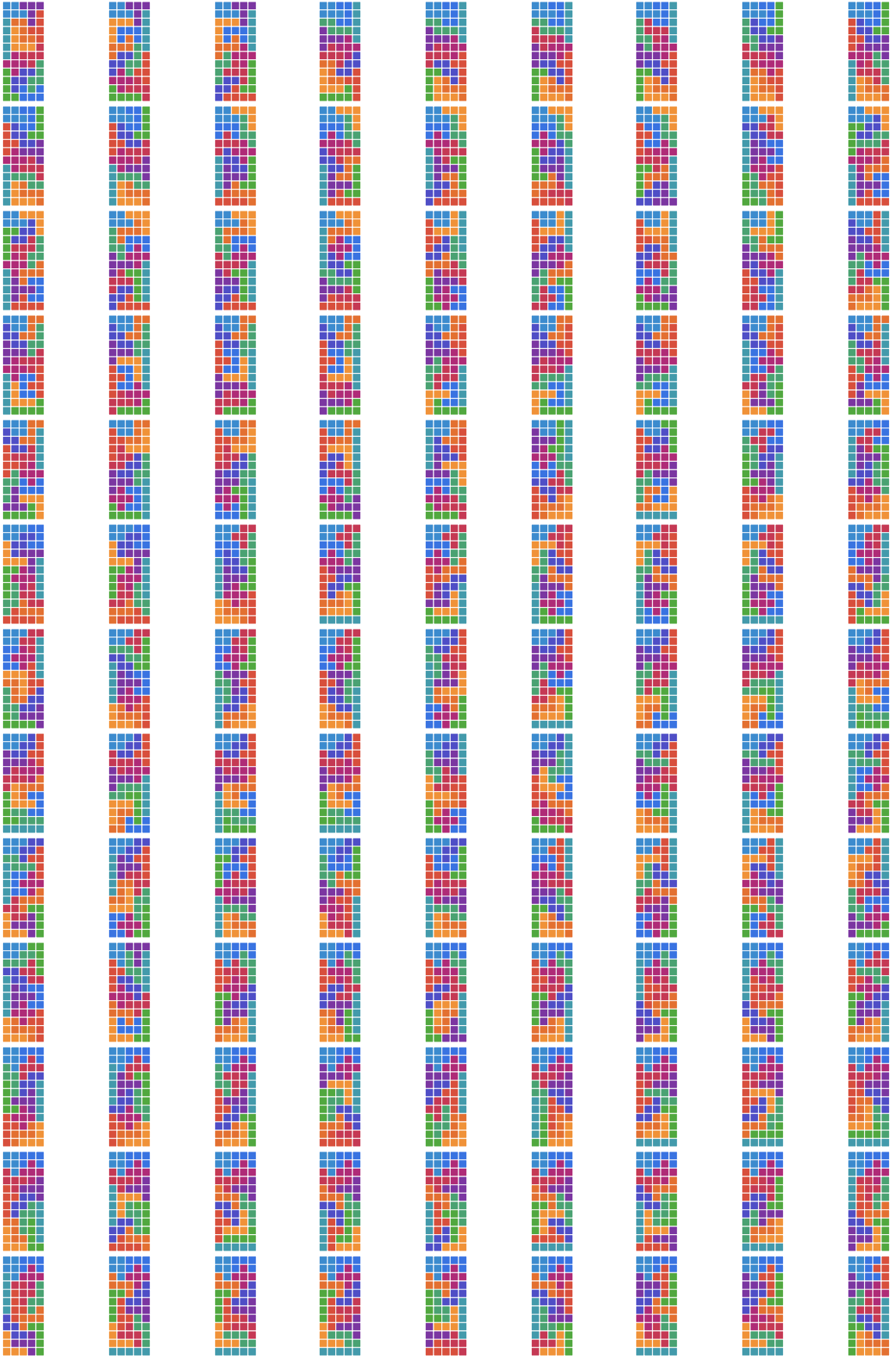
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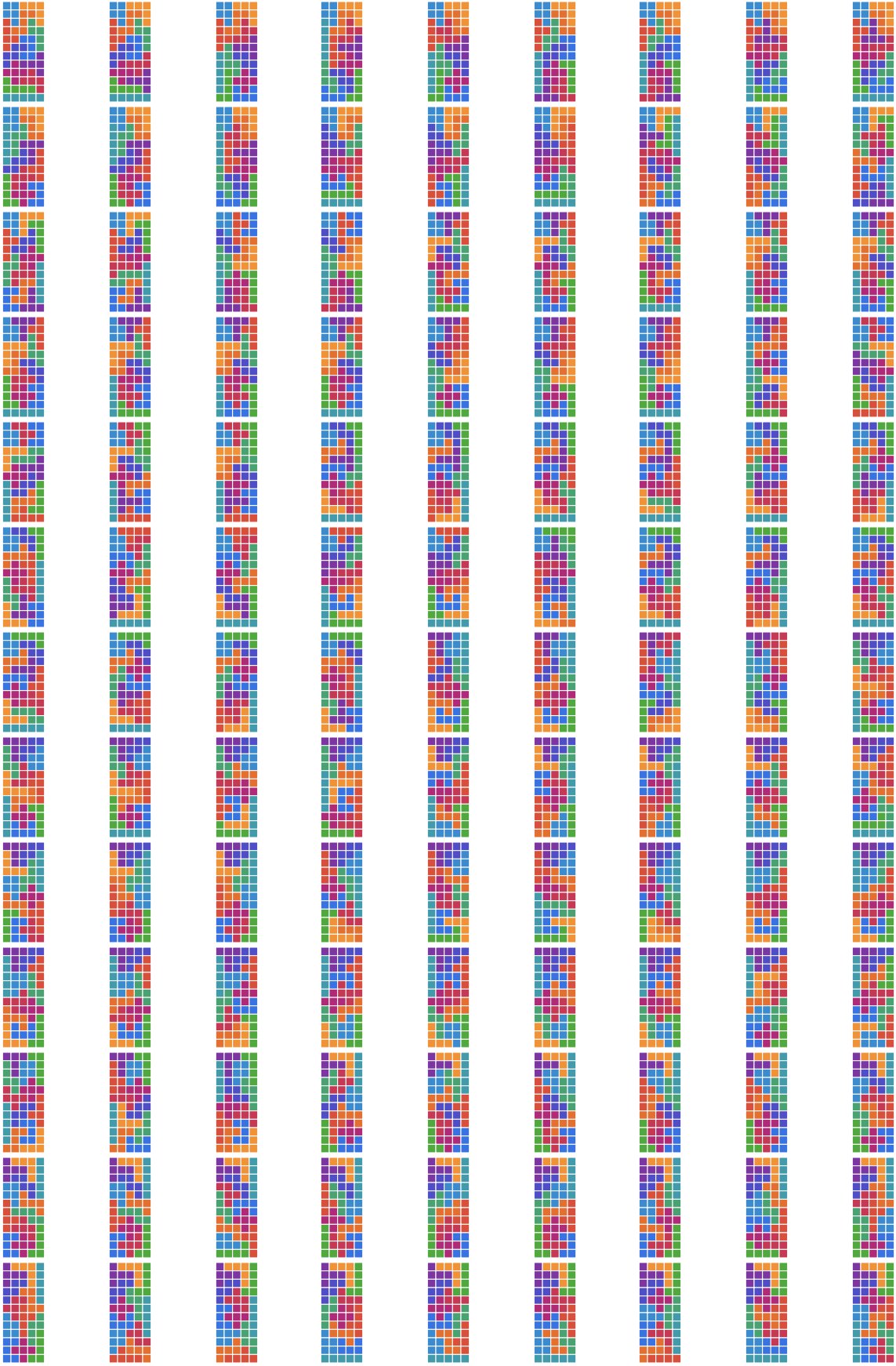


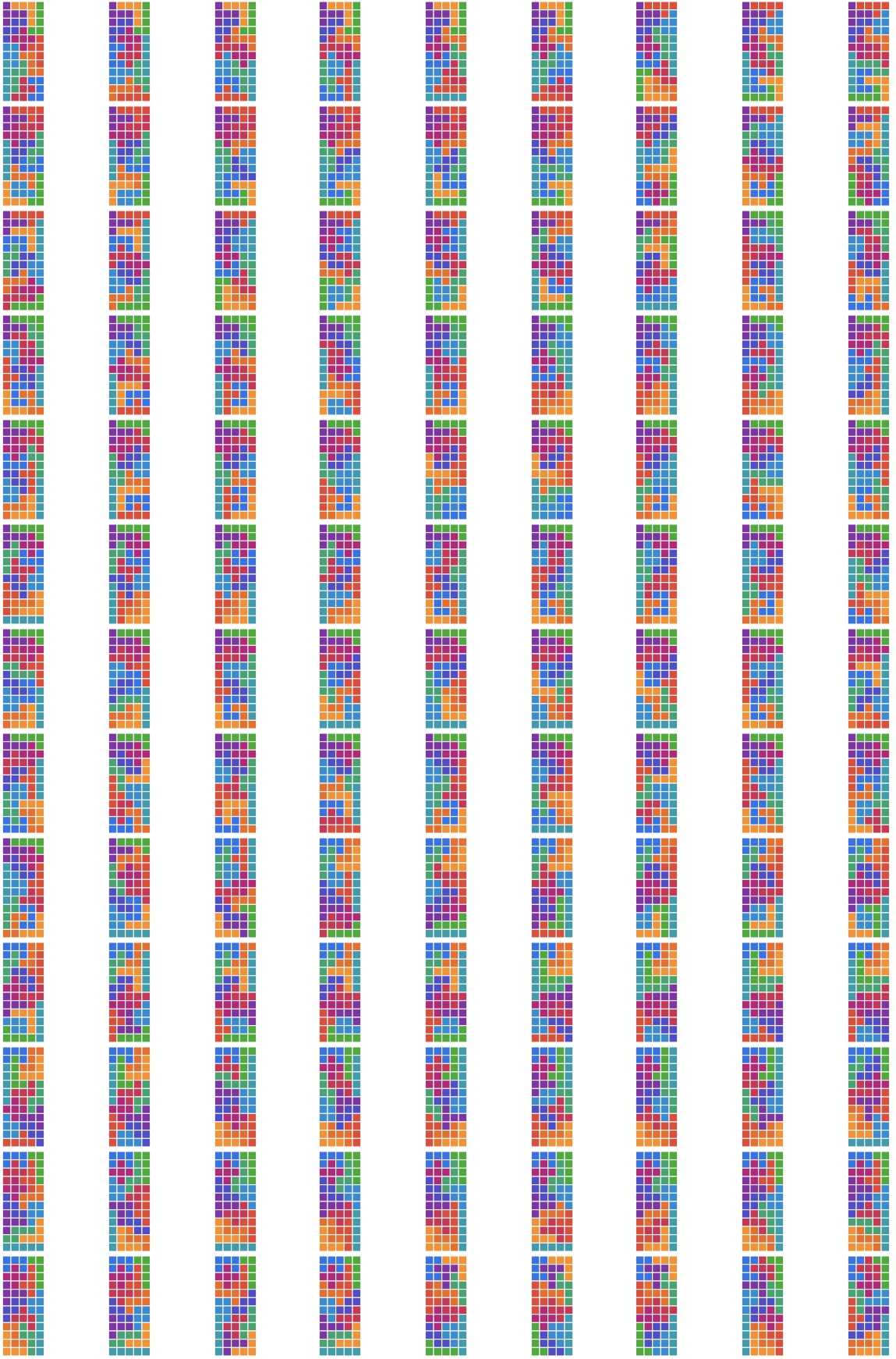


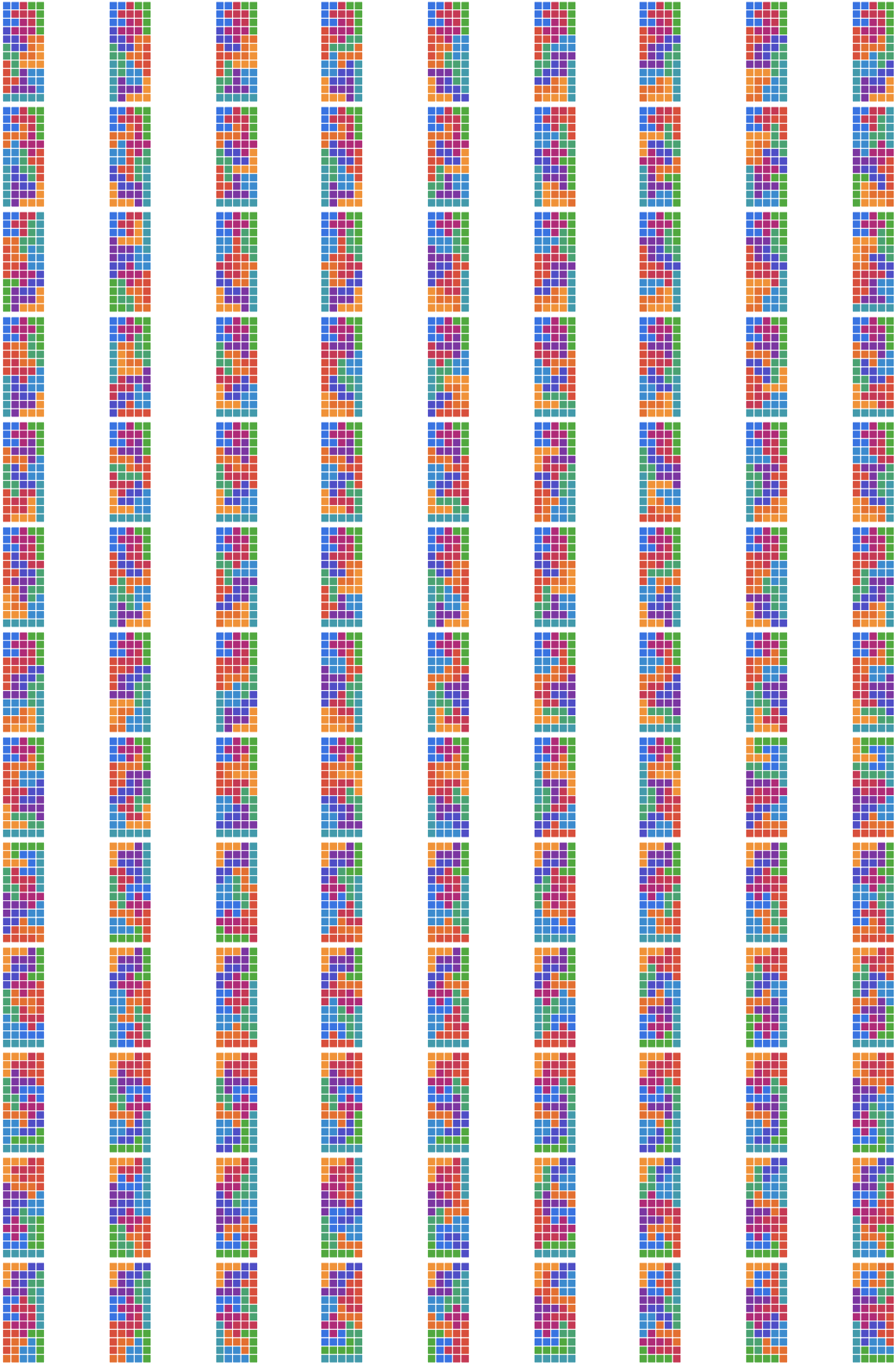


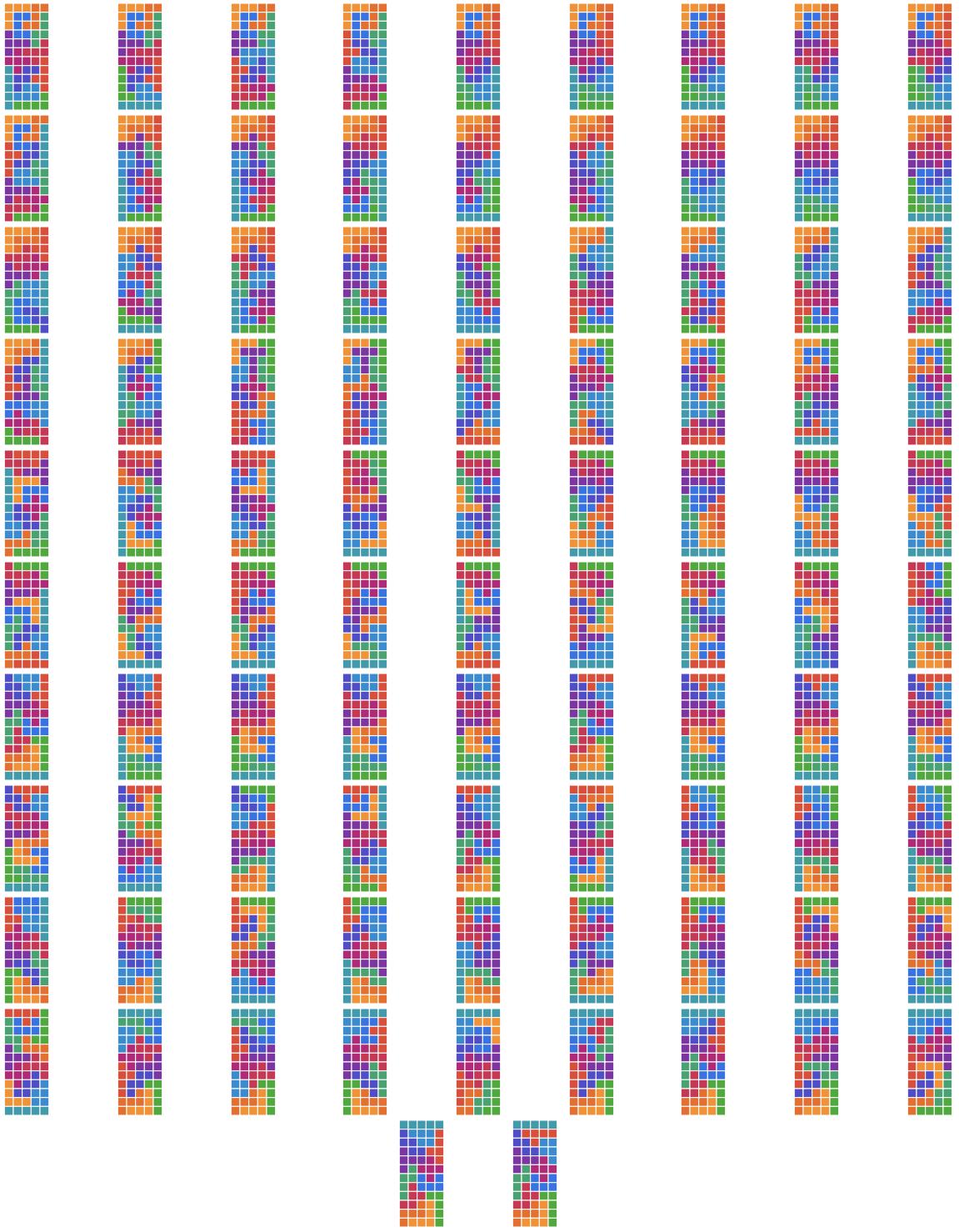


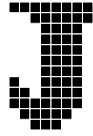




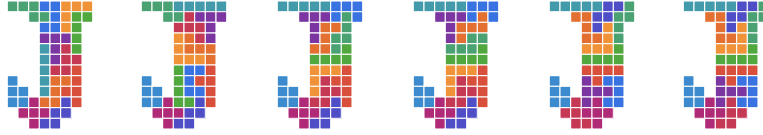


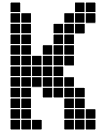




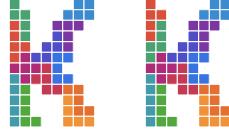


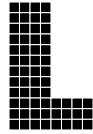
letter-j
6 Solutions





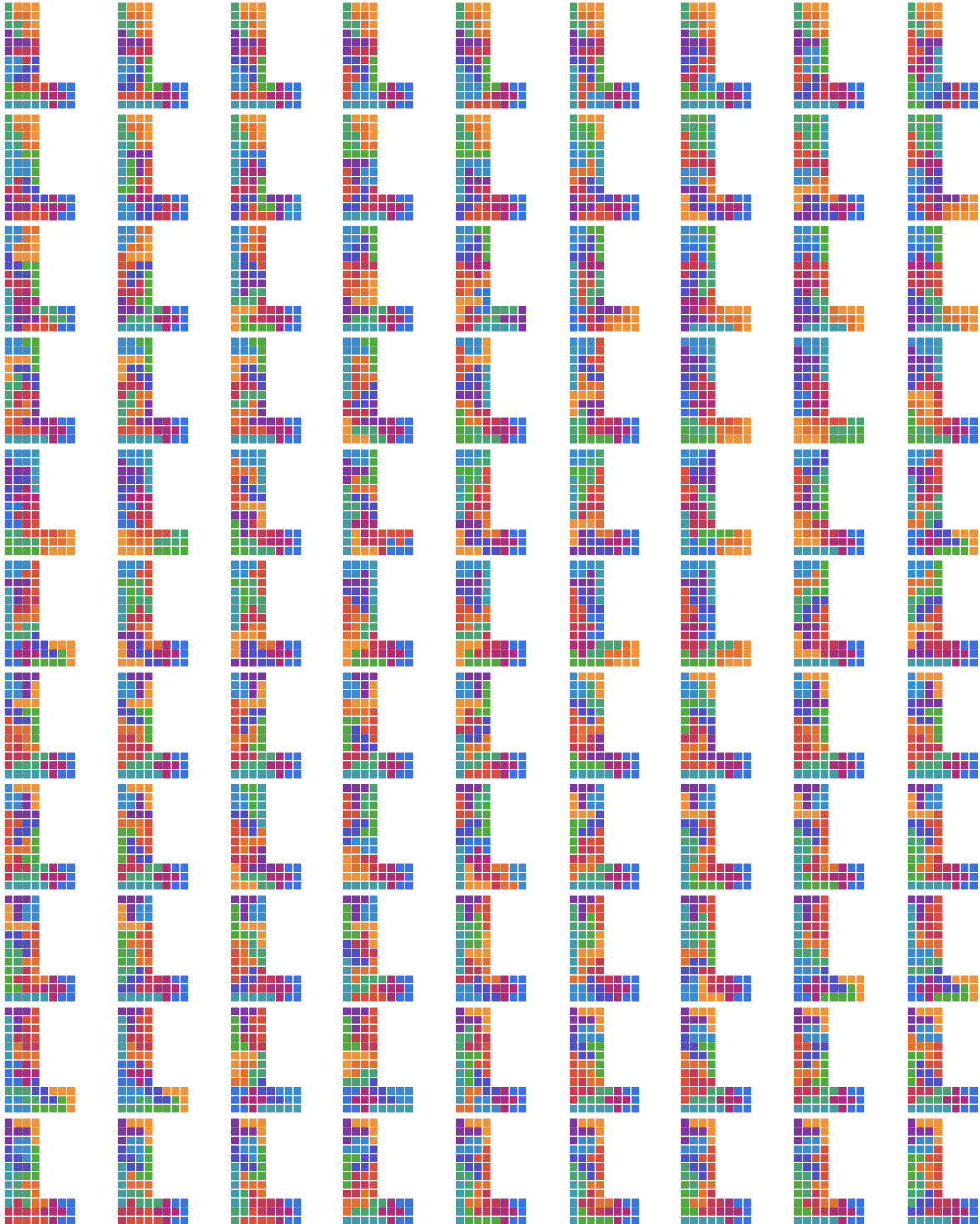
letter-k
2 Solutions

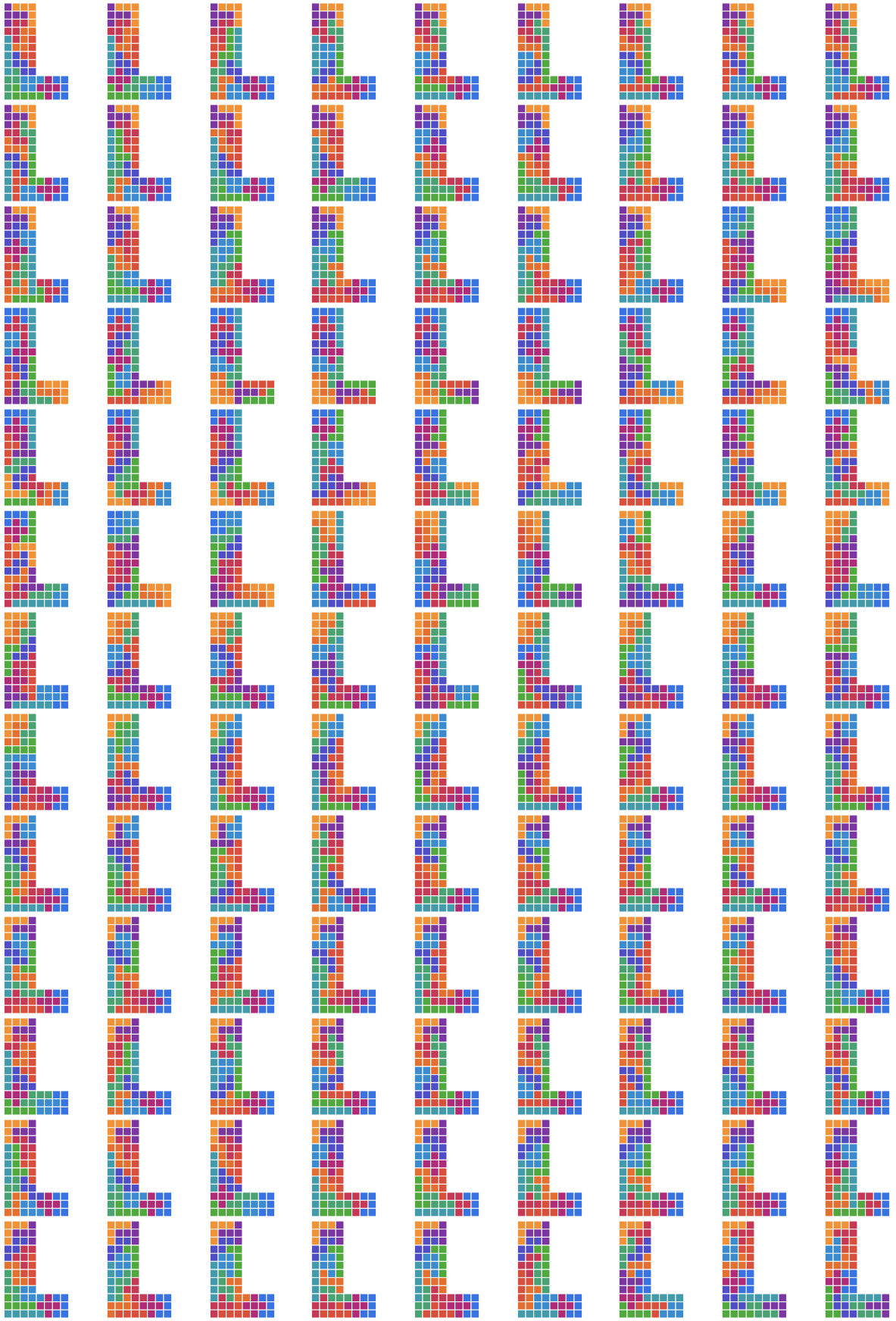


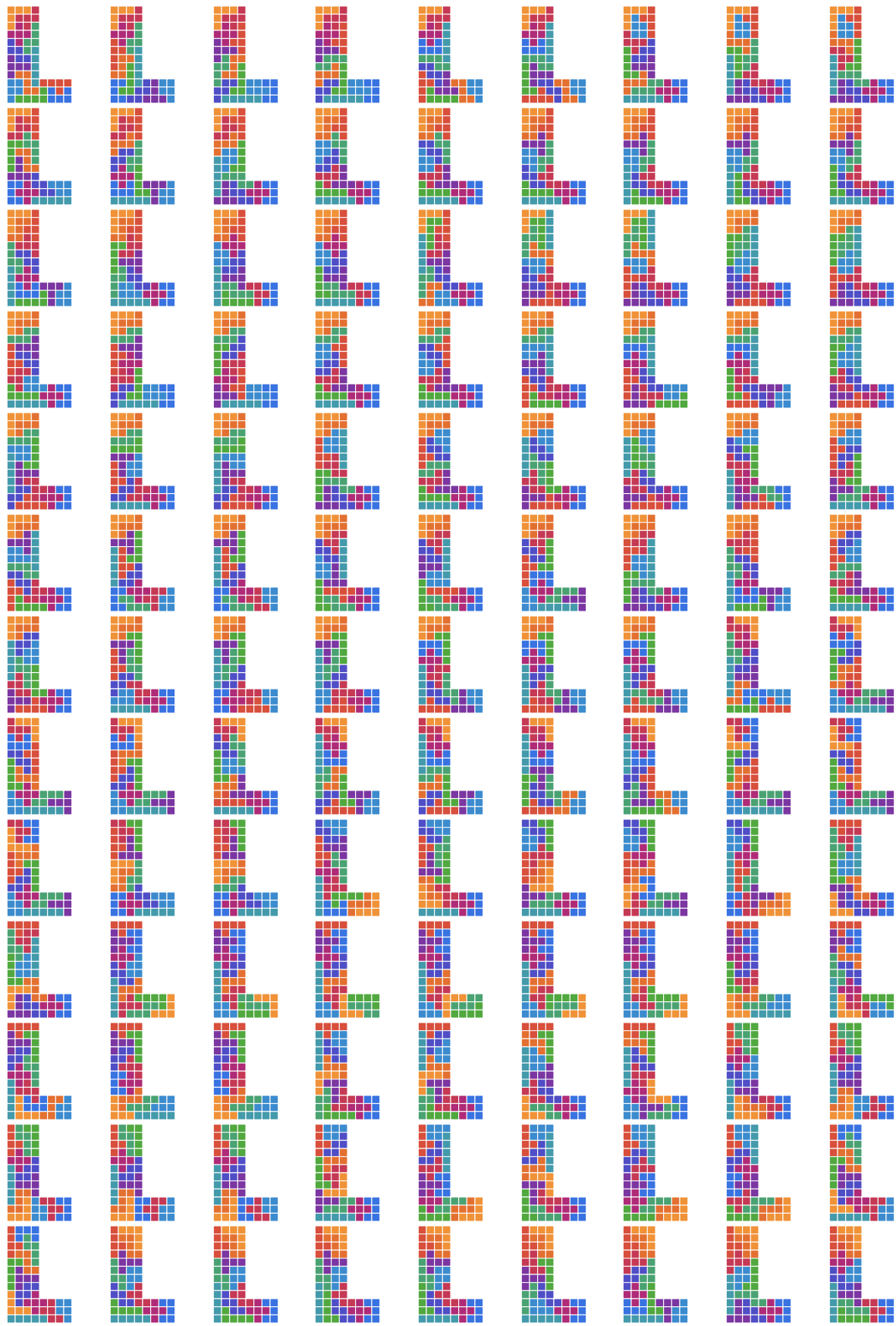


letter-l

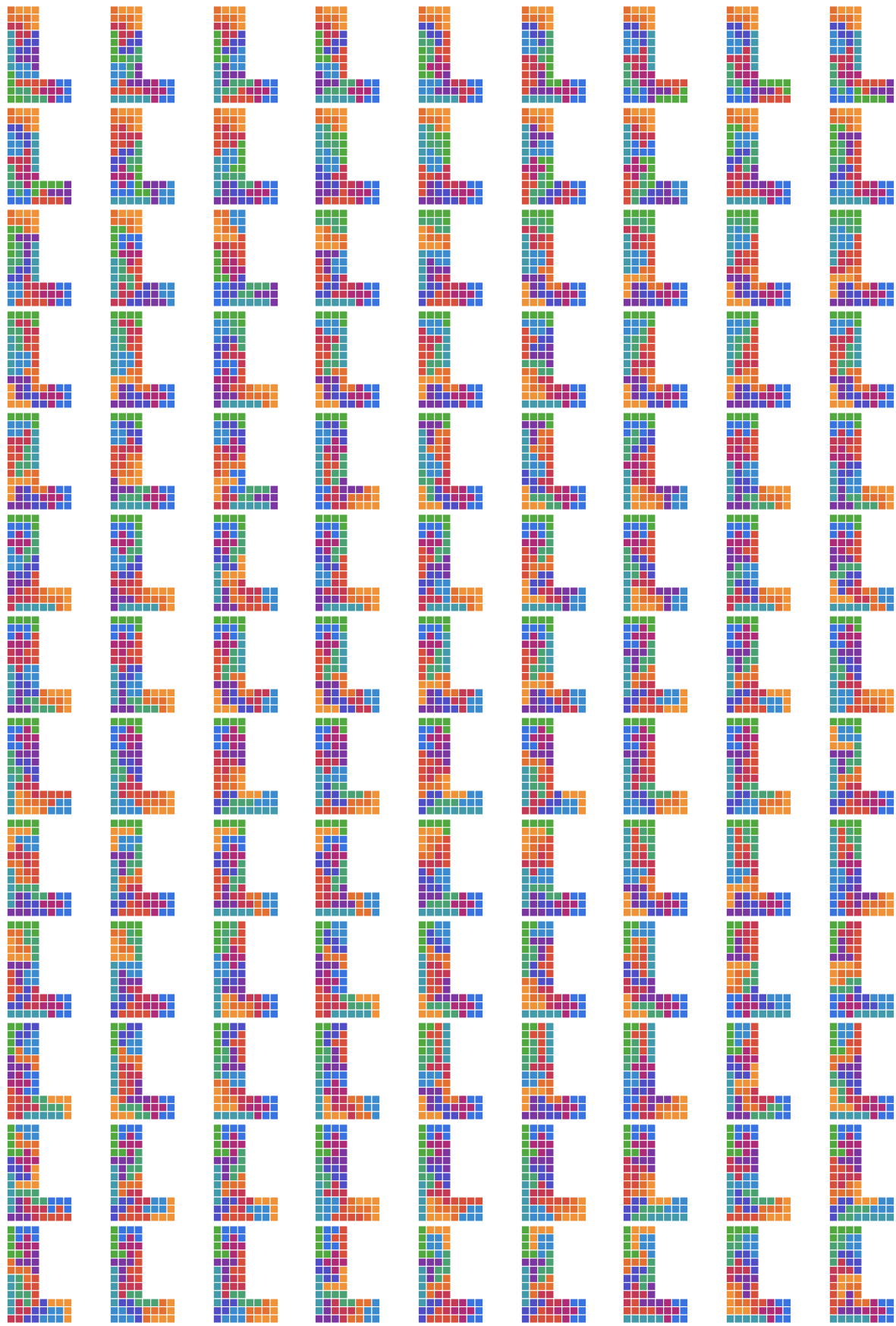
596 Solutions

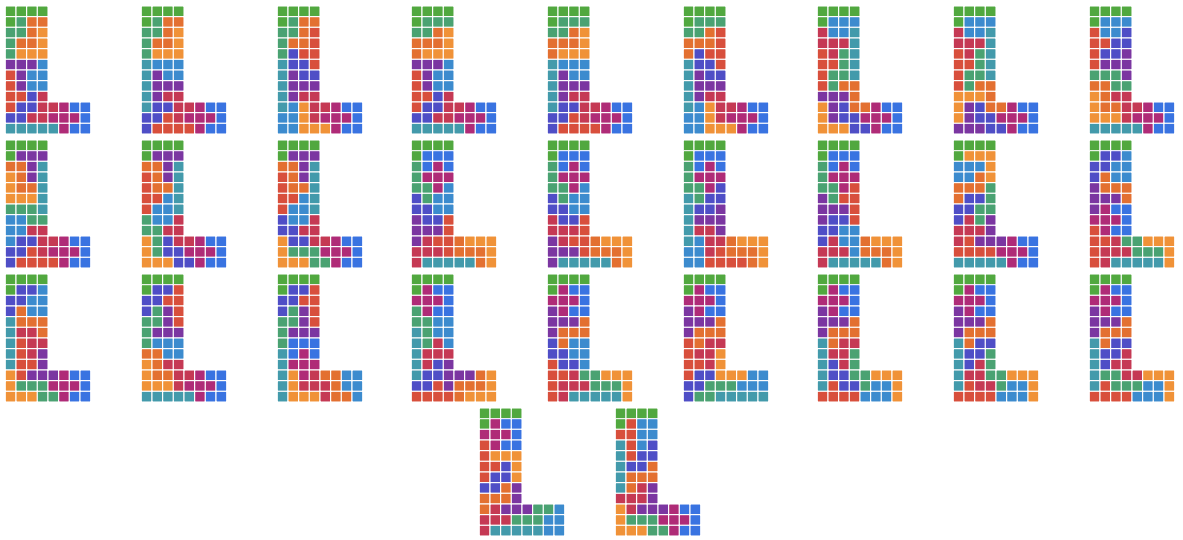


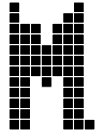






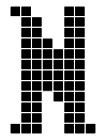




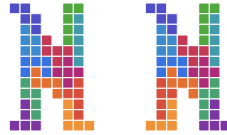


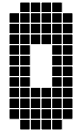
letter-m
3 Solutions





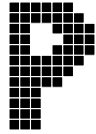
letter-n
2 Solutions





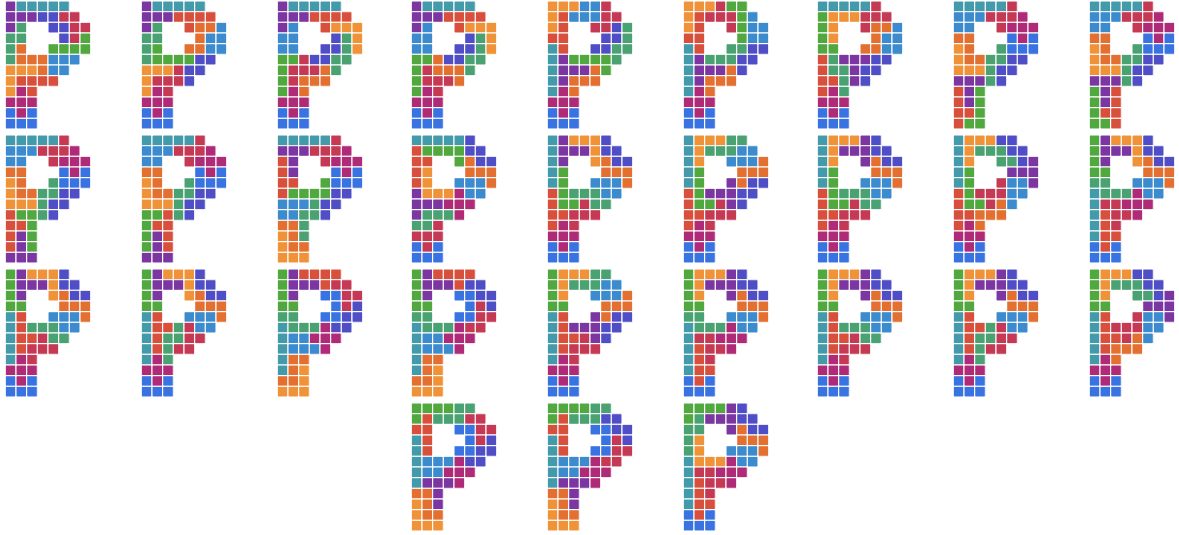
letter-o
4 Solutions

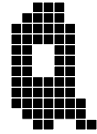




letter-p

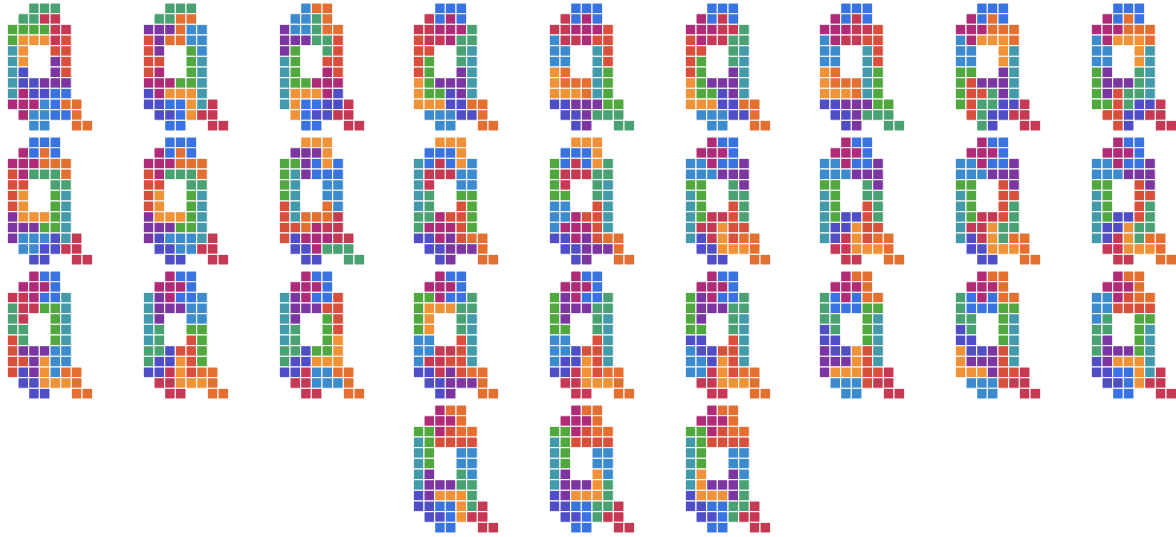
30 Solutions





letter-q

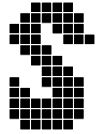
30 Solutions





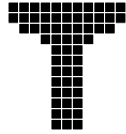
letter-r
1 Solution



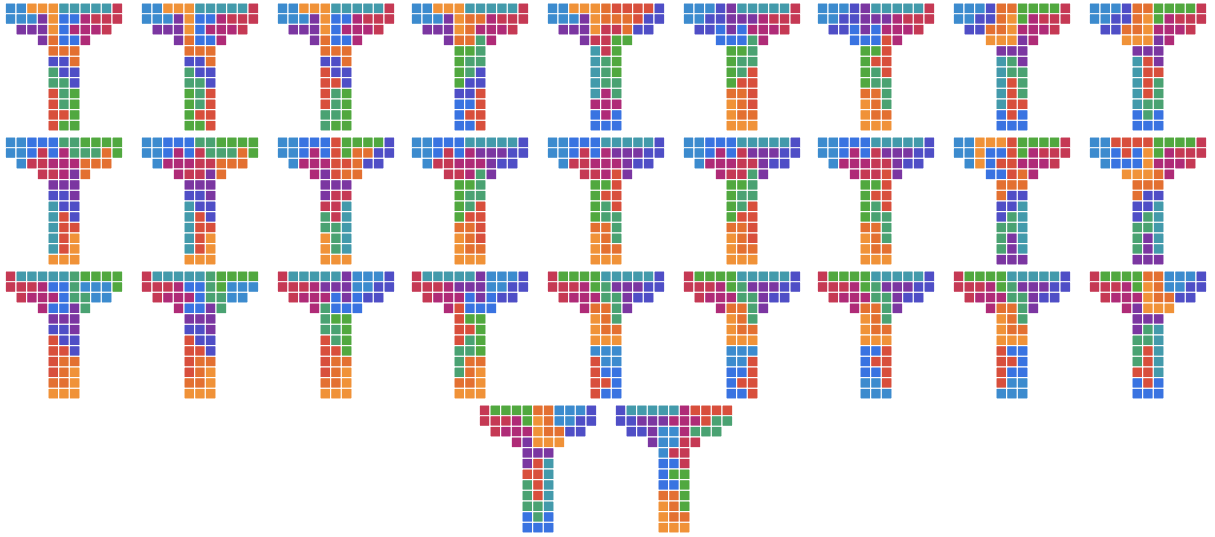


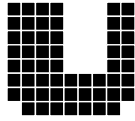
letter-s
2 Solutions





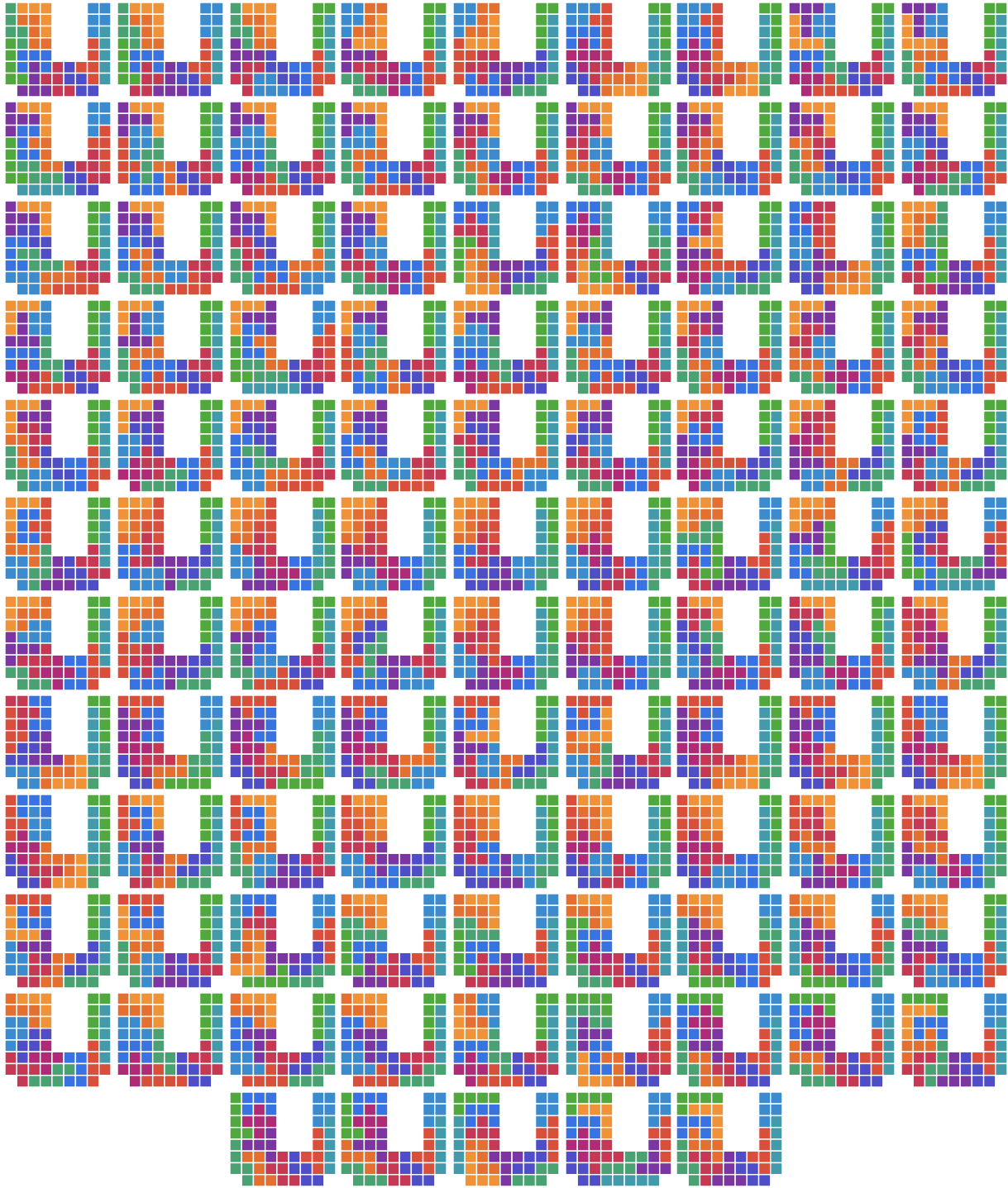
letter-t
29 Solutions

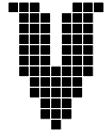




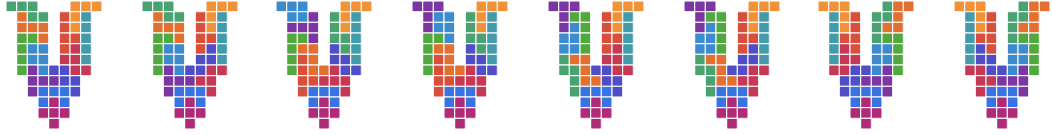
letter-u

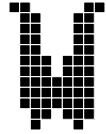
104 Solutions





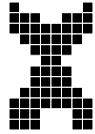
letter-v
8 Solutions



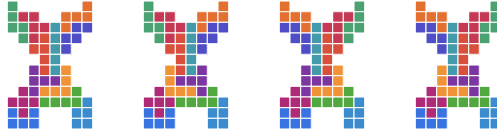


letter-w
1 Solution





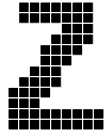
letter-x
4 Solutions





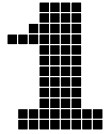
letter-y
1 Solution





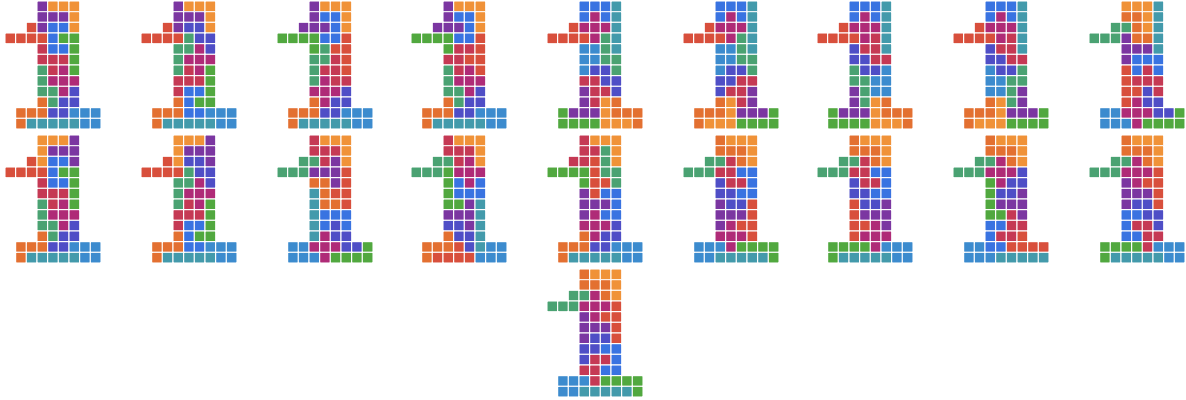
letter-z
1 Solution





number-1

19 Solutions





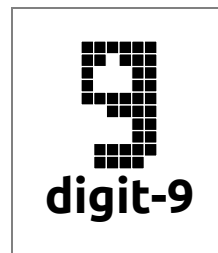
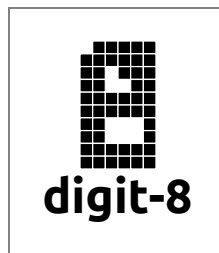
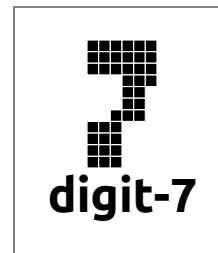
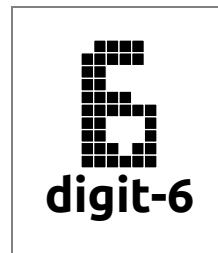
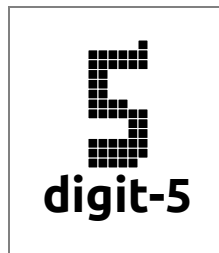
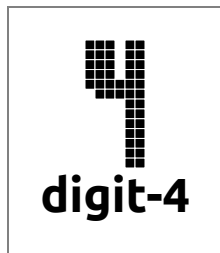
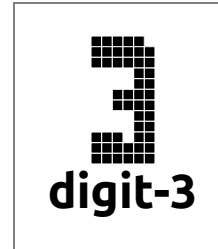
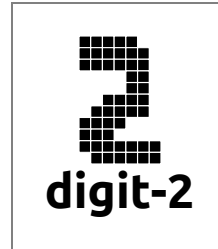
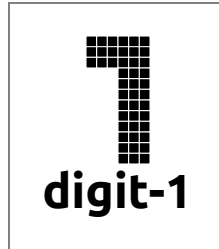
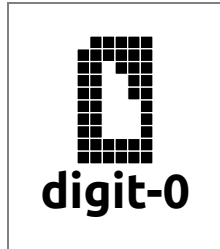
question

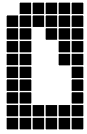
1 Solution



Digits

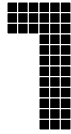
The nine (9) Arabic numerals built from less than the full set of Pentominoes.





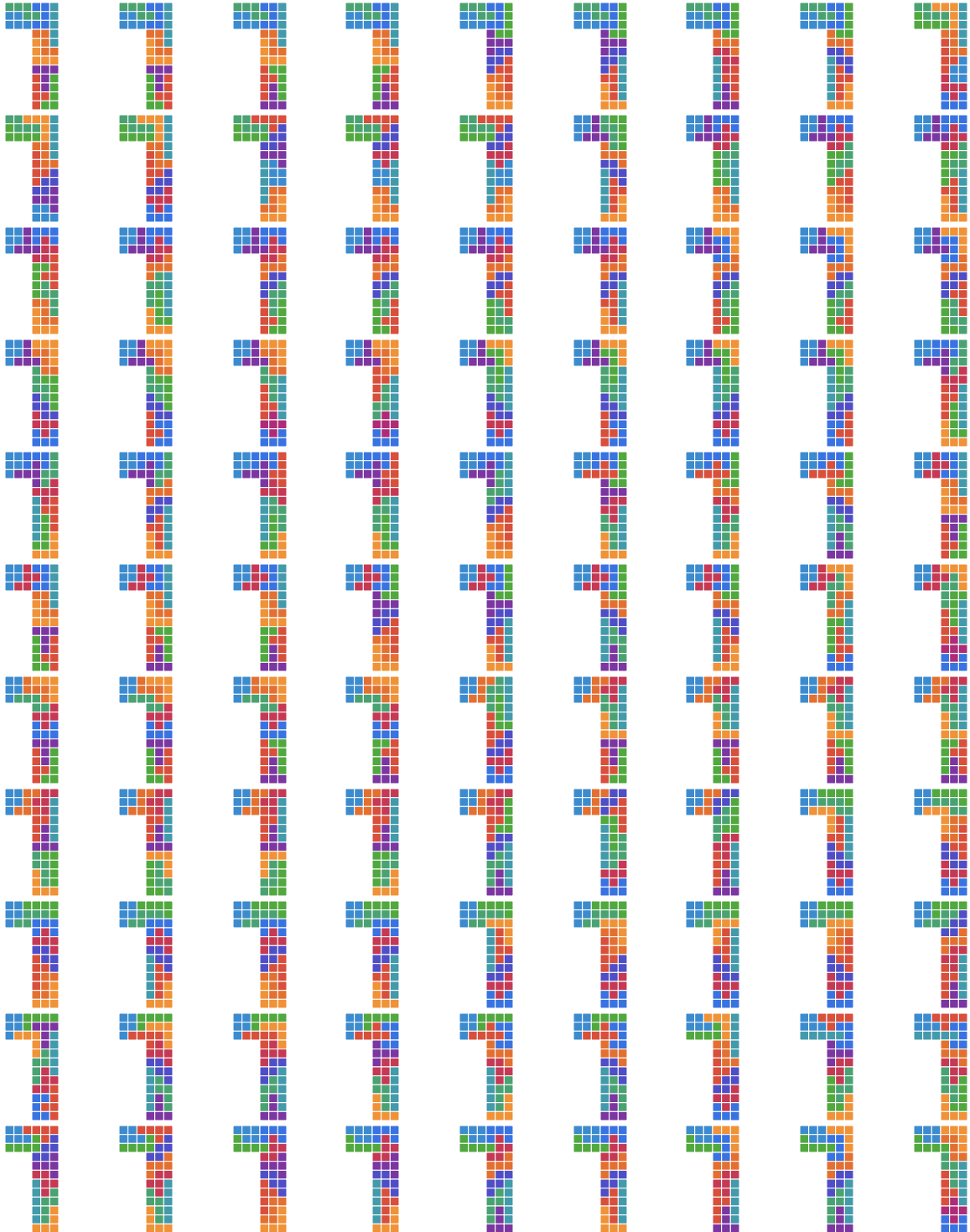
digit-0
3 Solutions

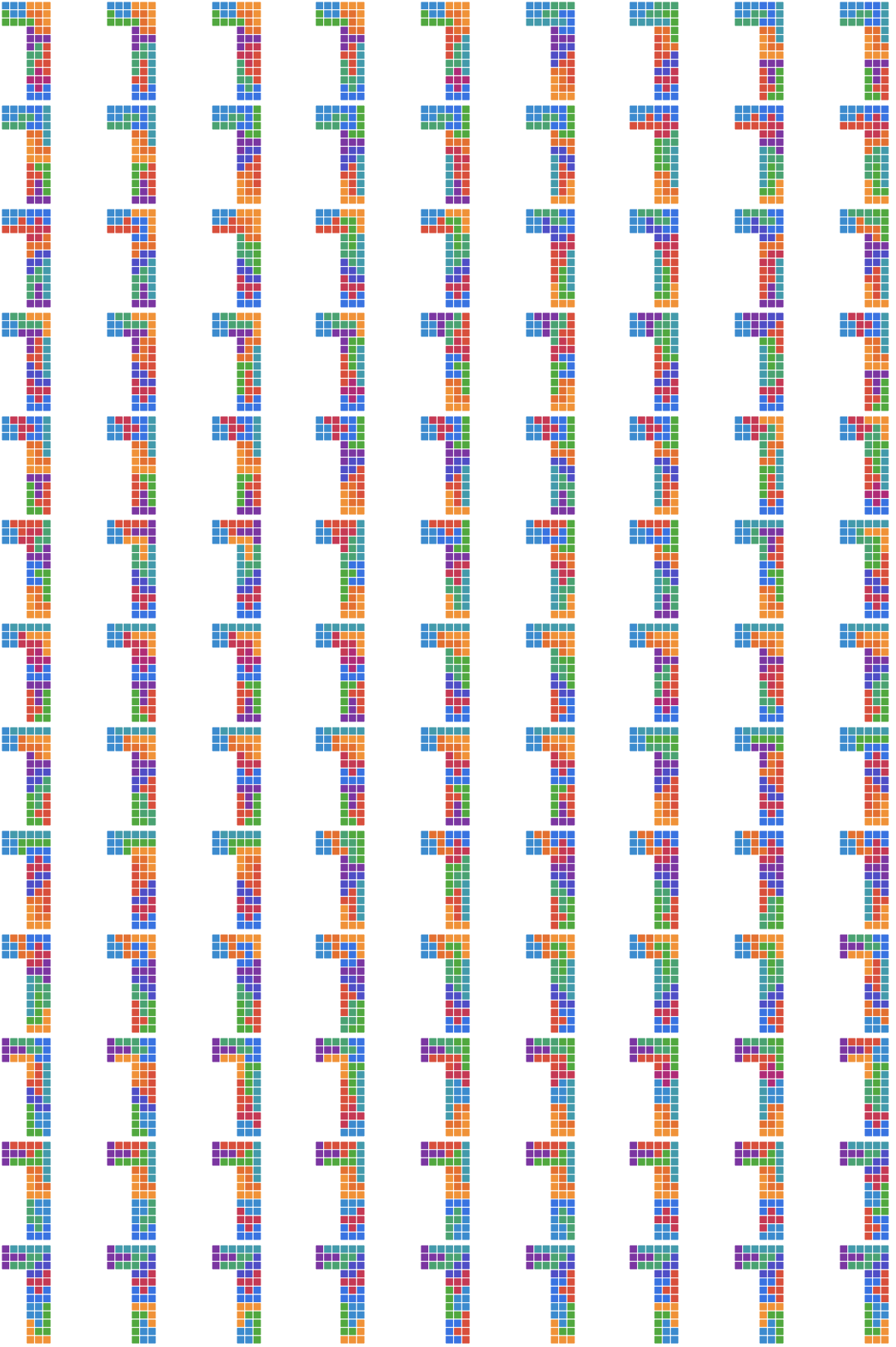


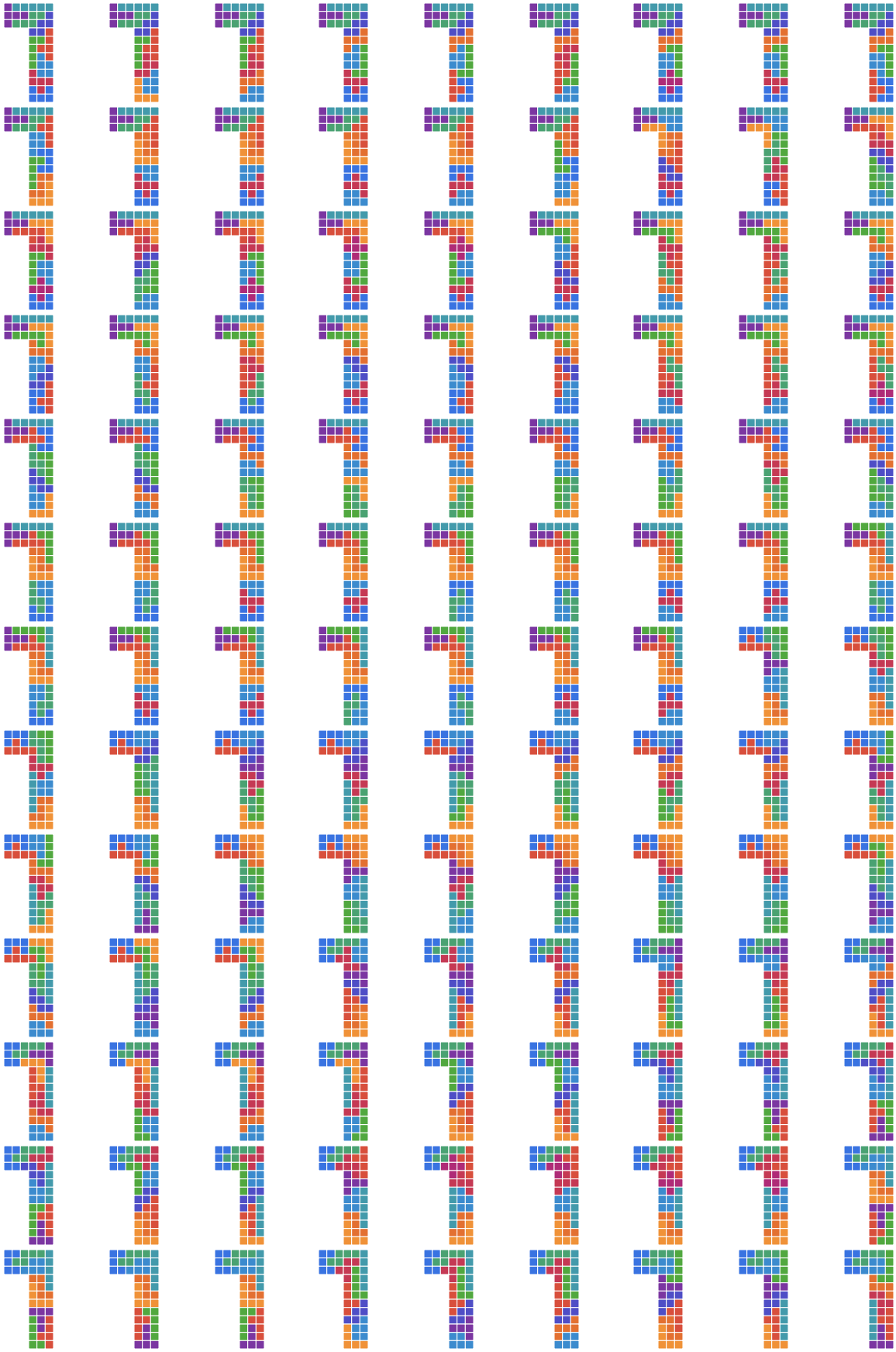


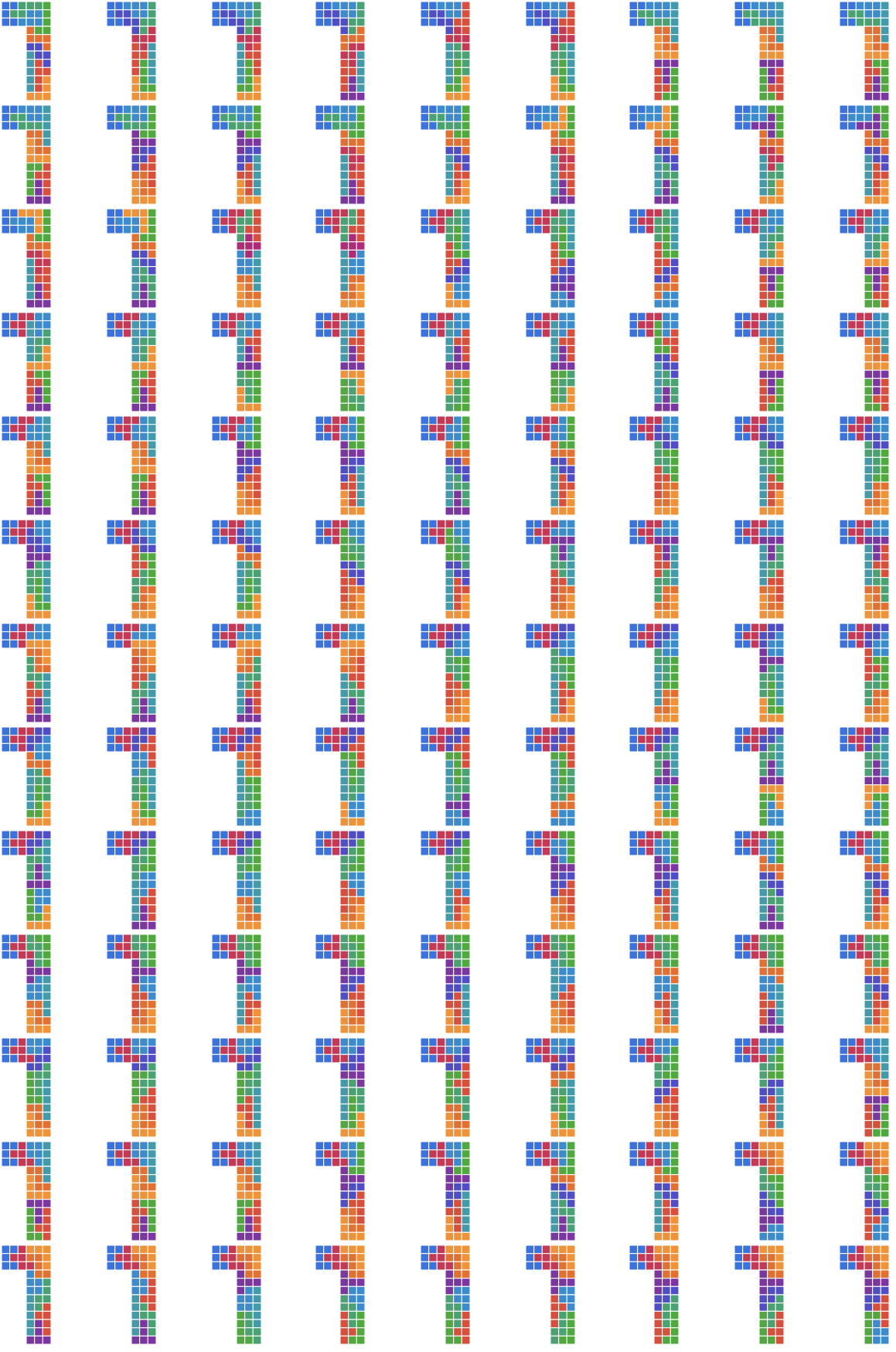
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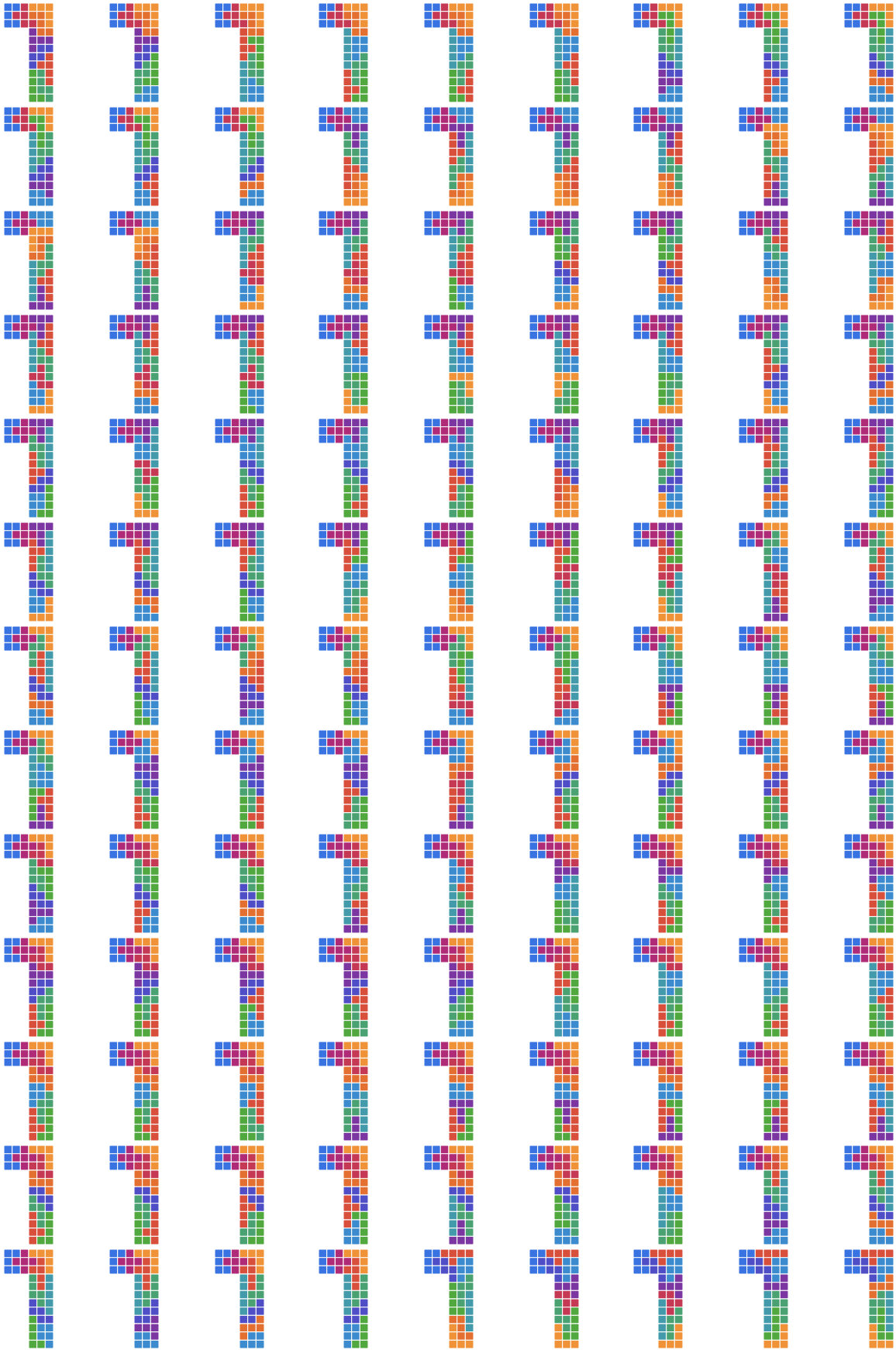
938 Solutions

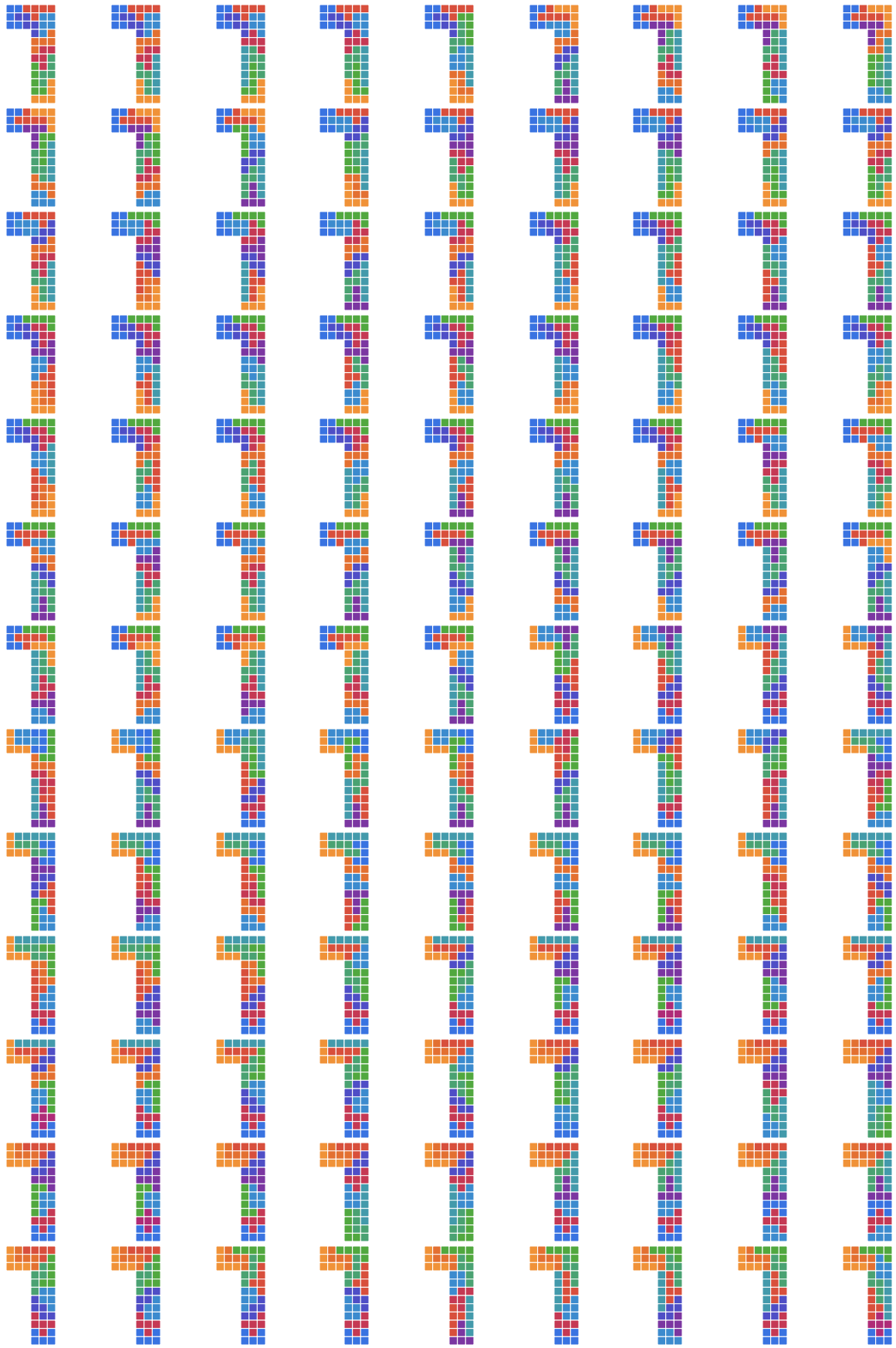


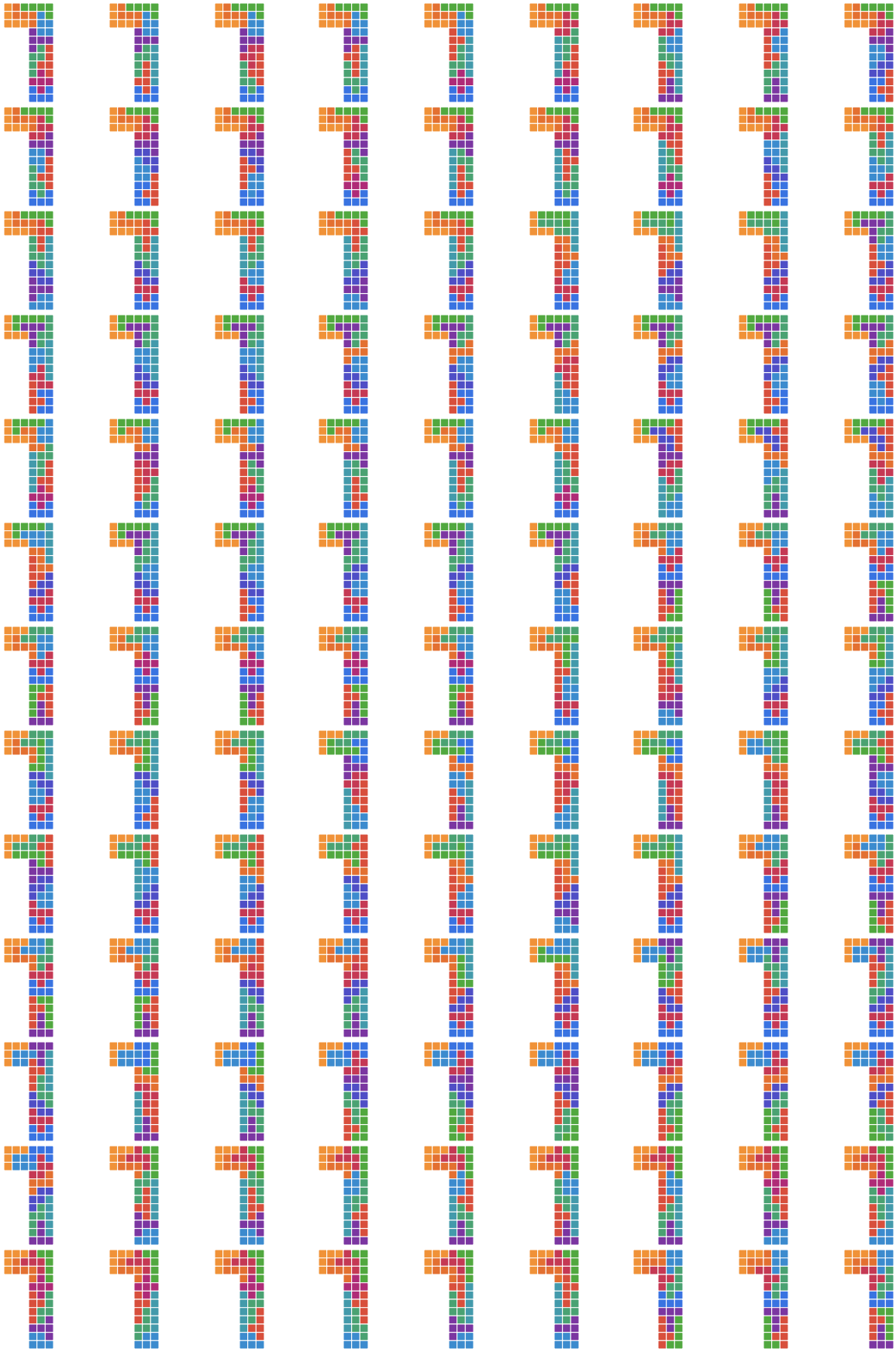


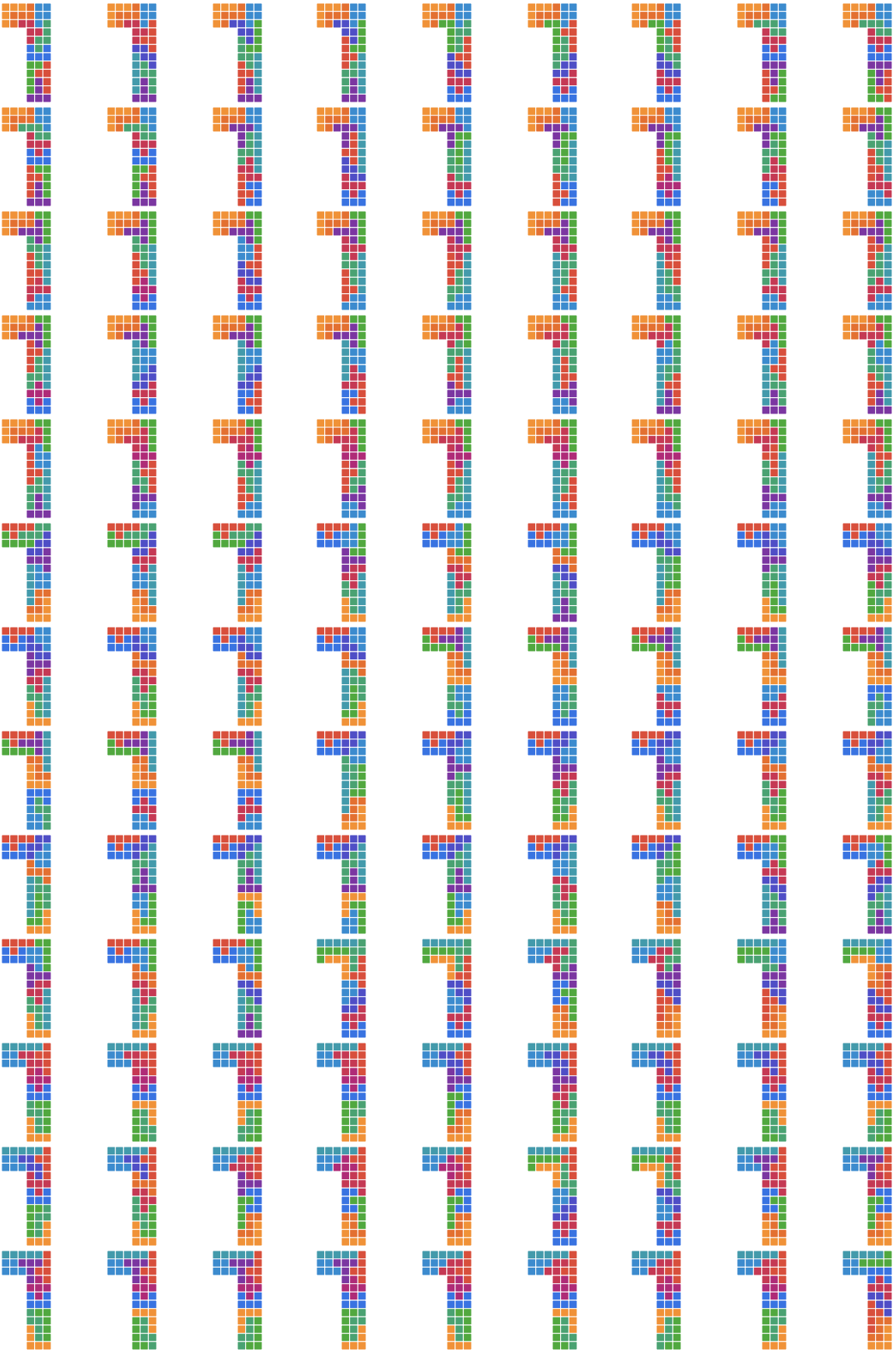


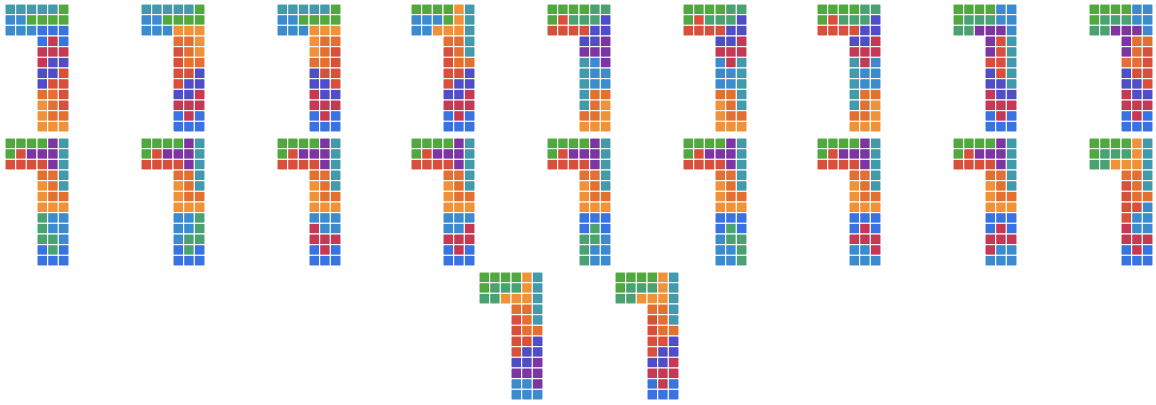


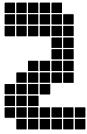






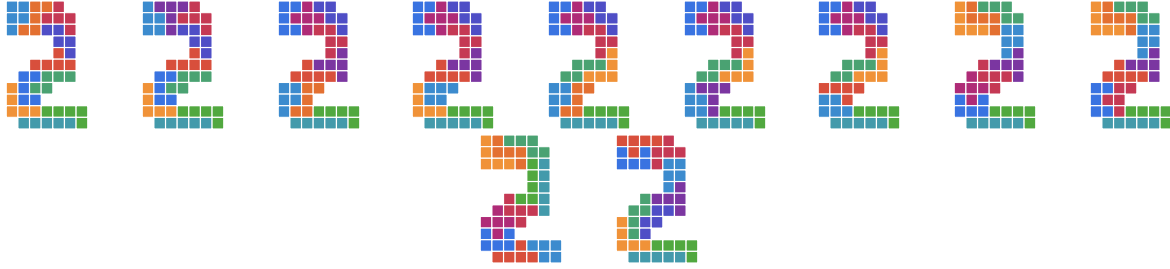


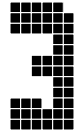




digit-2

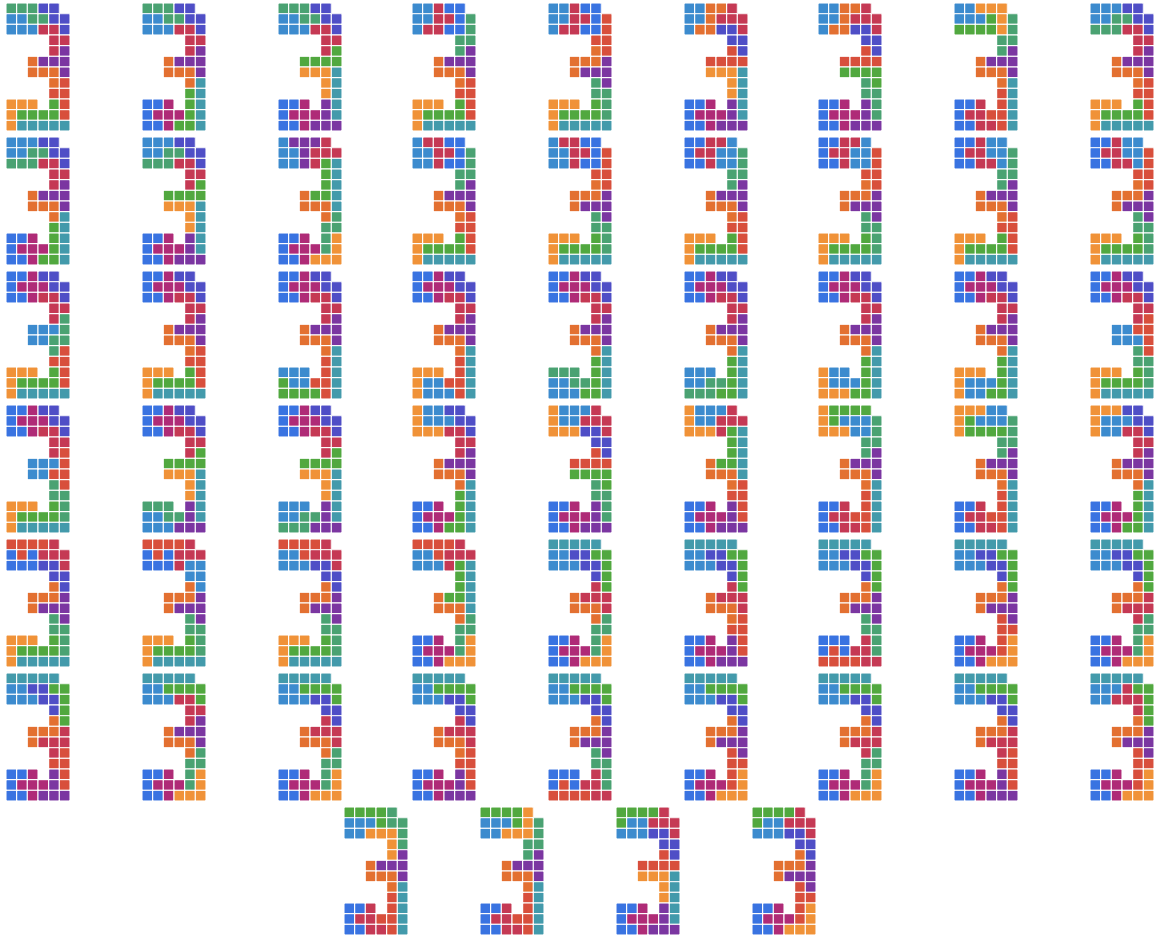
11 Solutions





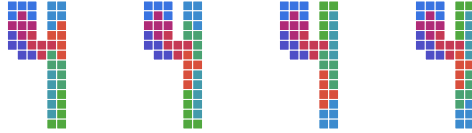
digit-3

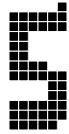
58 Solutions





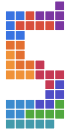
digit-4
4 Solutions

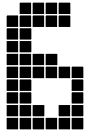




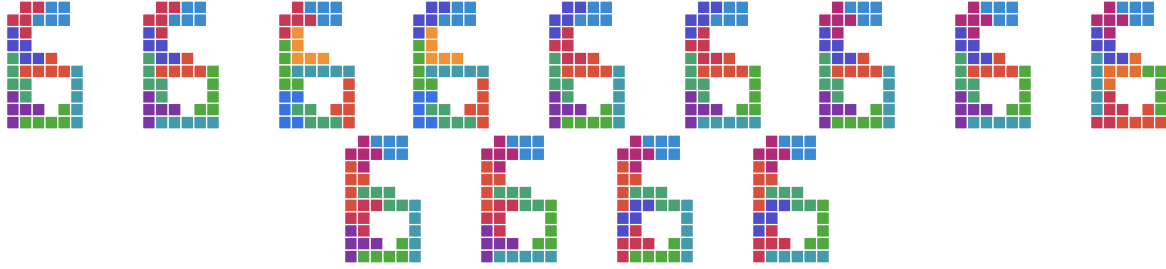
digit-5

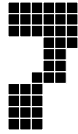
14 Solutions





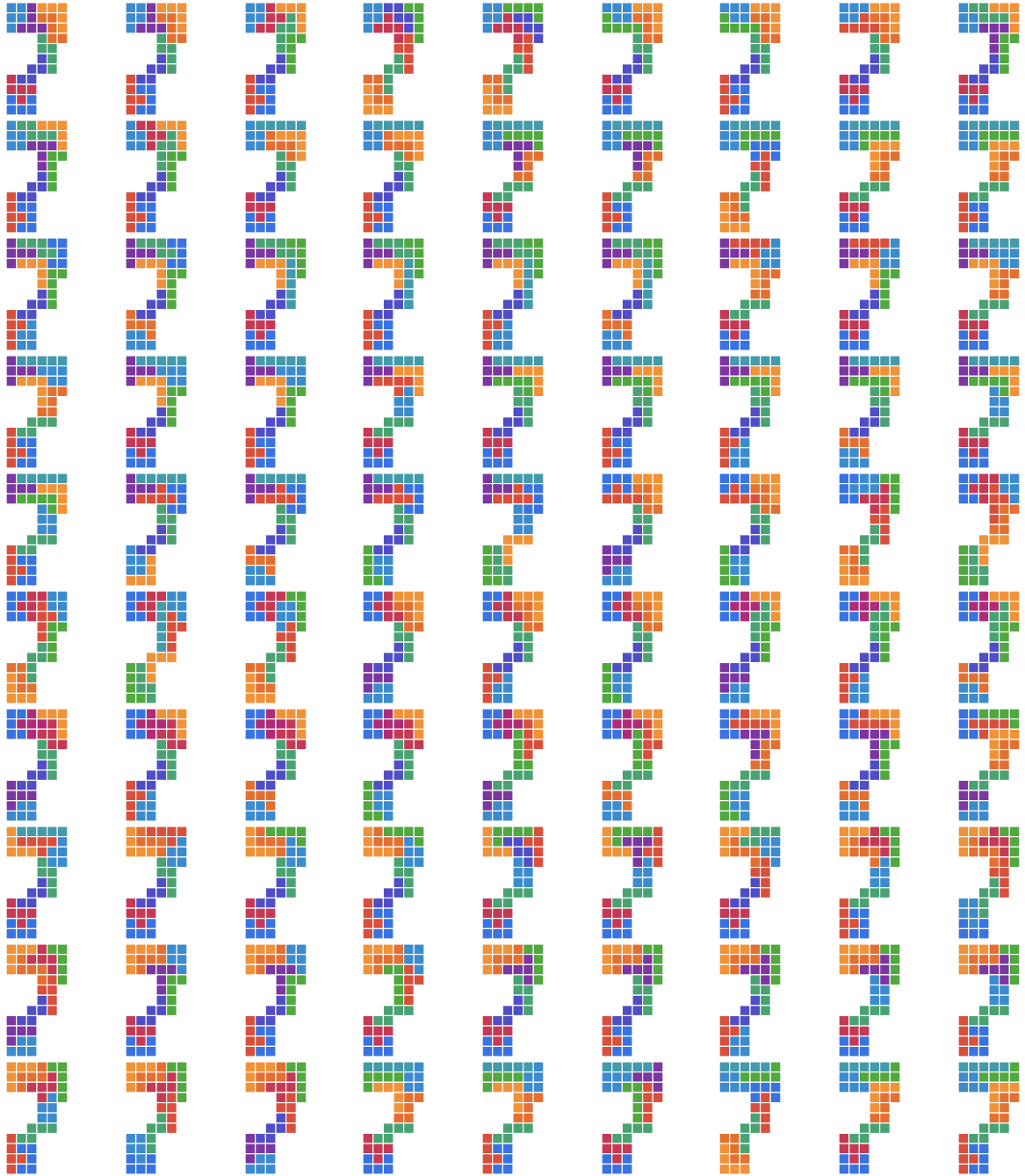
digit-6
13 Solutions

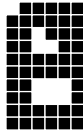




digit-7

90 Solutions

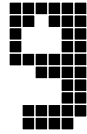




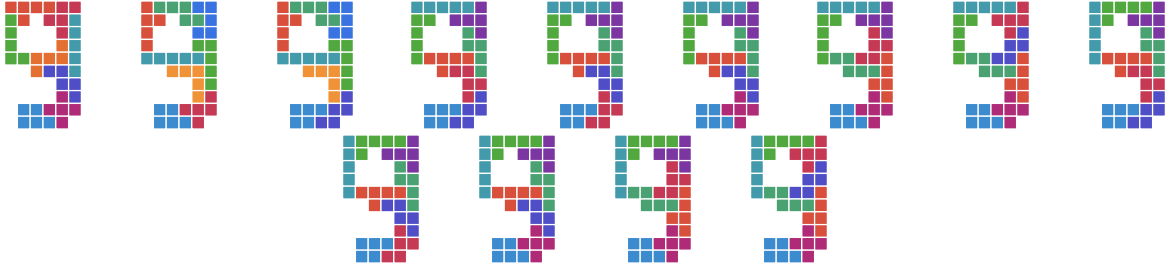
digit-8

86 Solutions



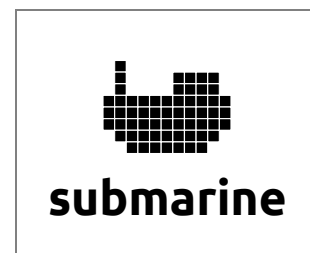
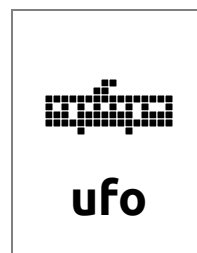
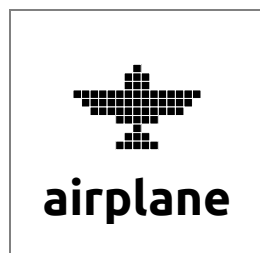
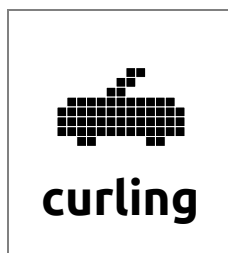
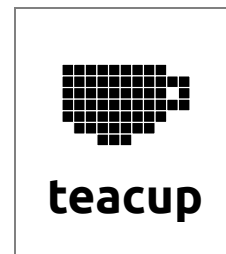
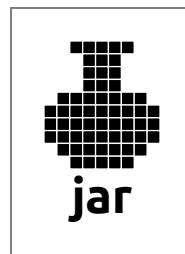
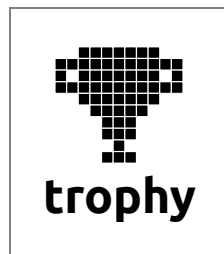
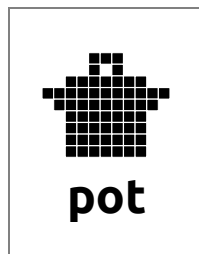
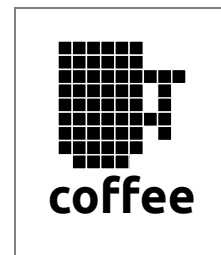
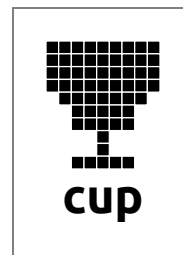
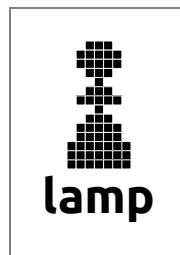
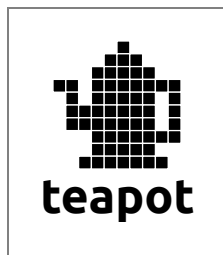
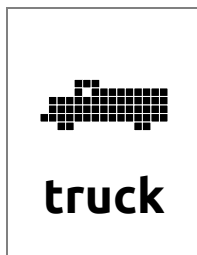
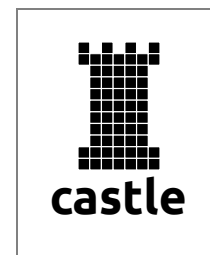
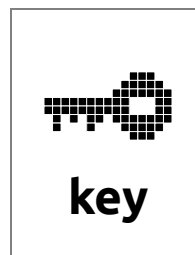
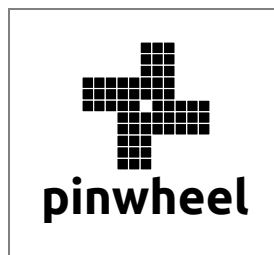
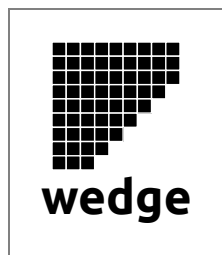
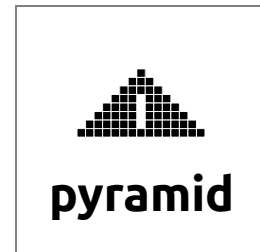
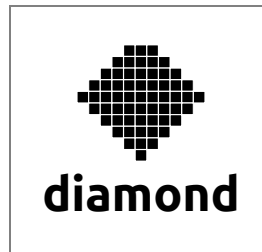
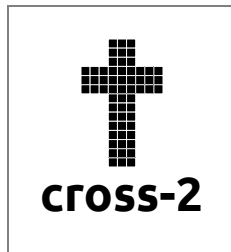
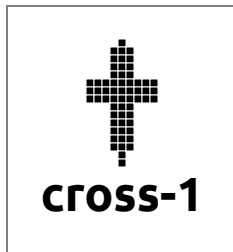


digit-9
13 Solutions



Figures

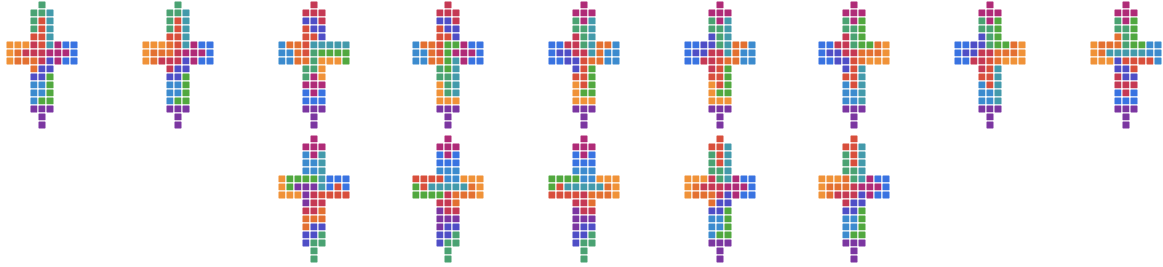
Miscellaneous figures and shapes.

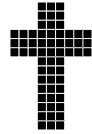




CROSS-1

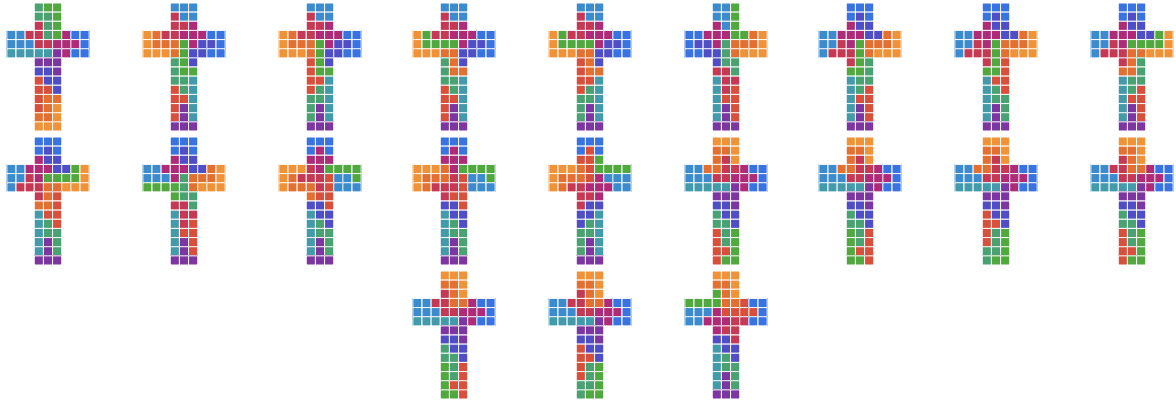
14 Solutions

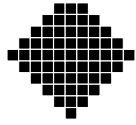




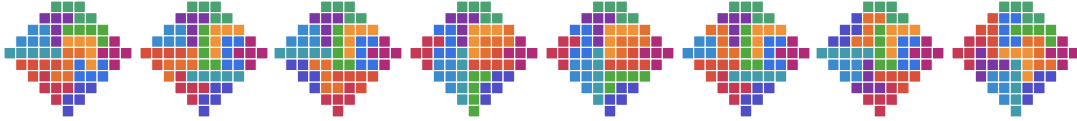
CROSS-2

21 Solutions



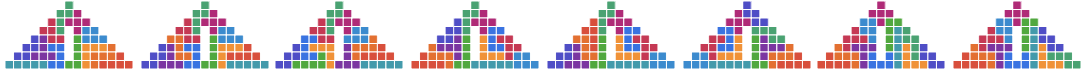


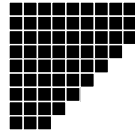
diamond
8 Solutions



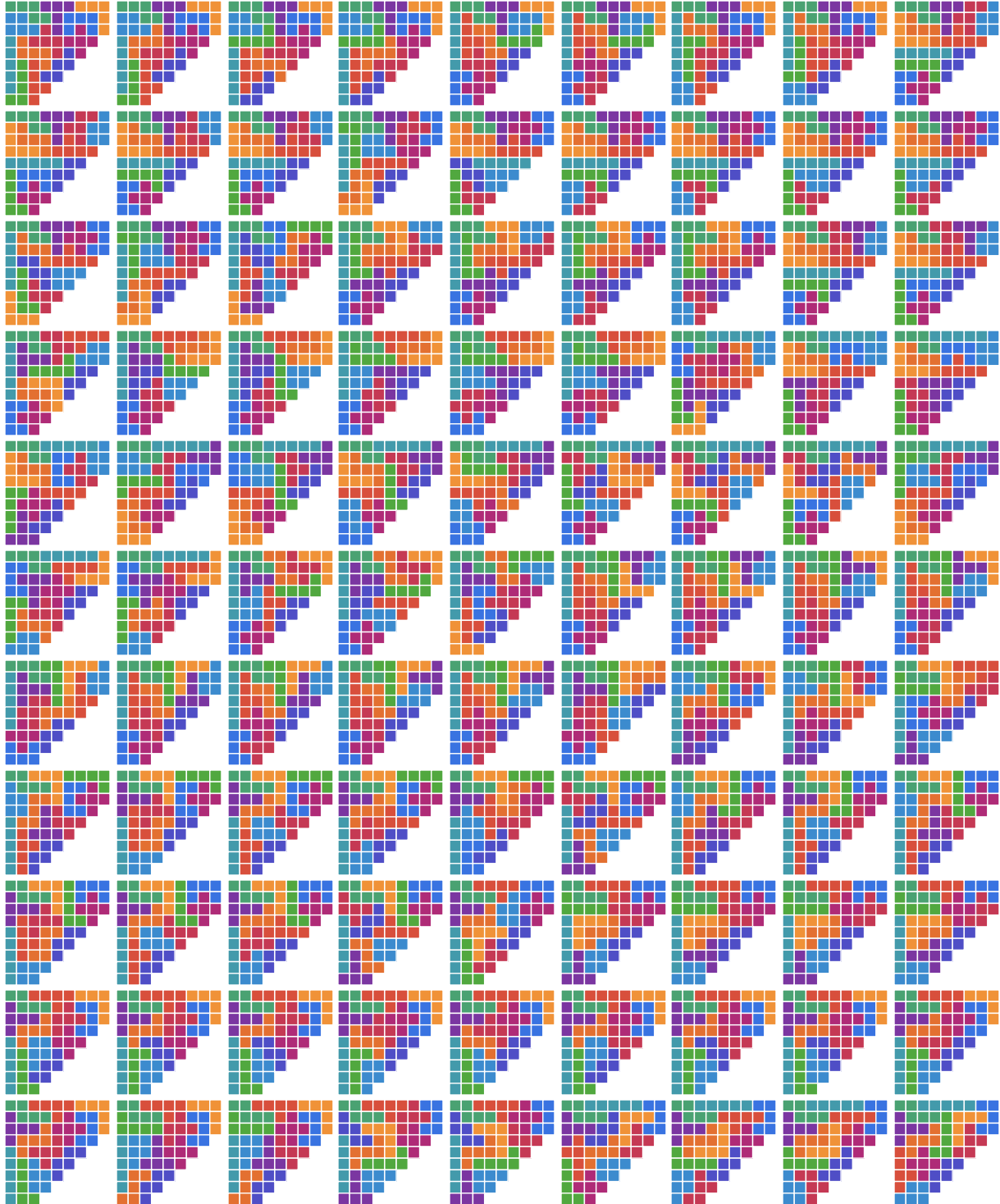


pyramid
8 Solutions

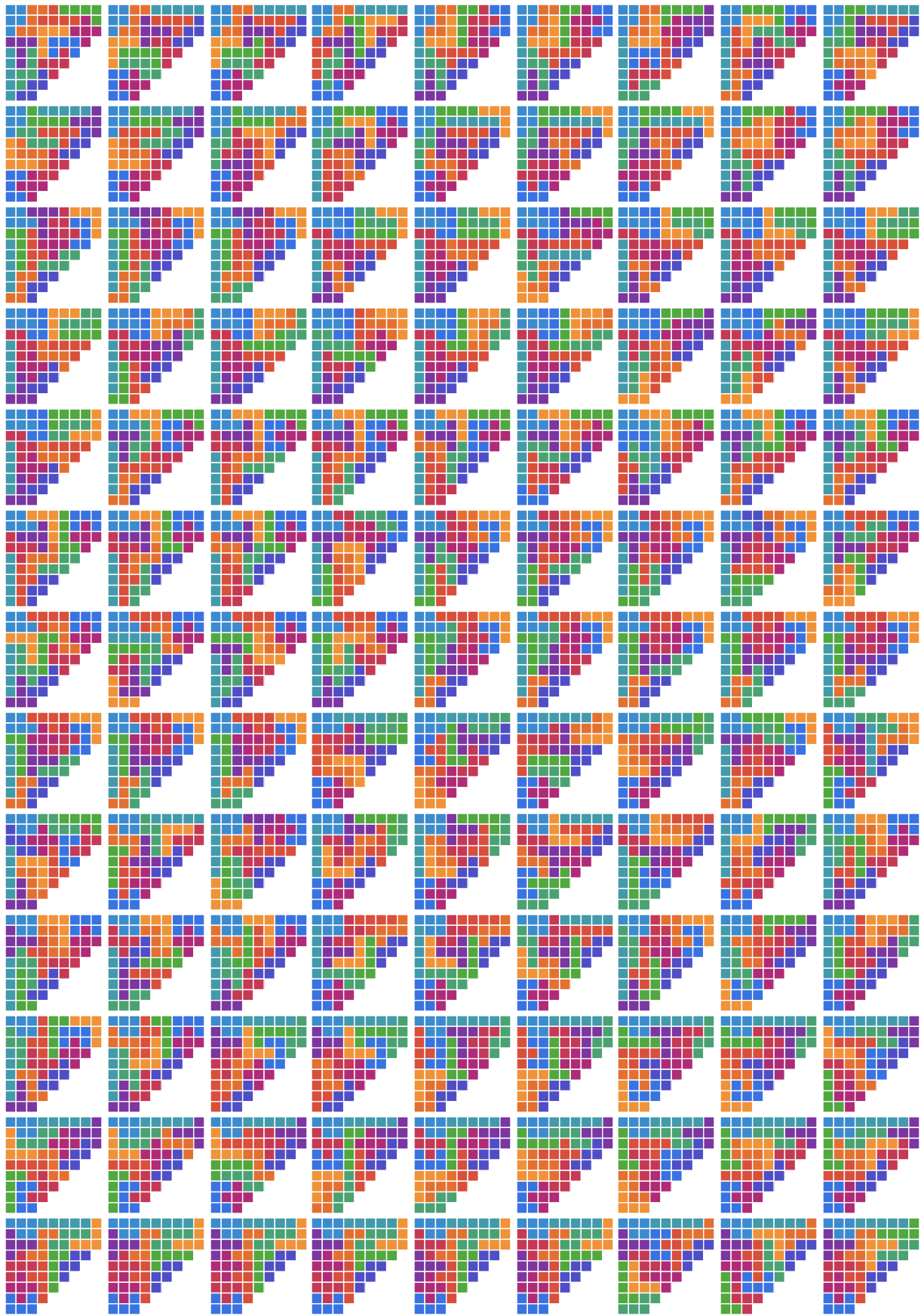




wedge
3,626 Solutions





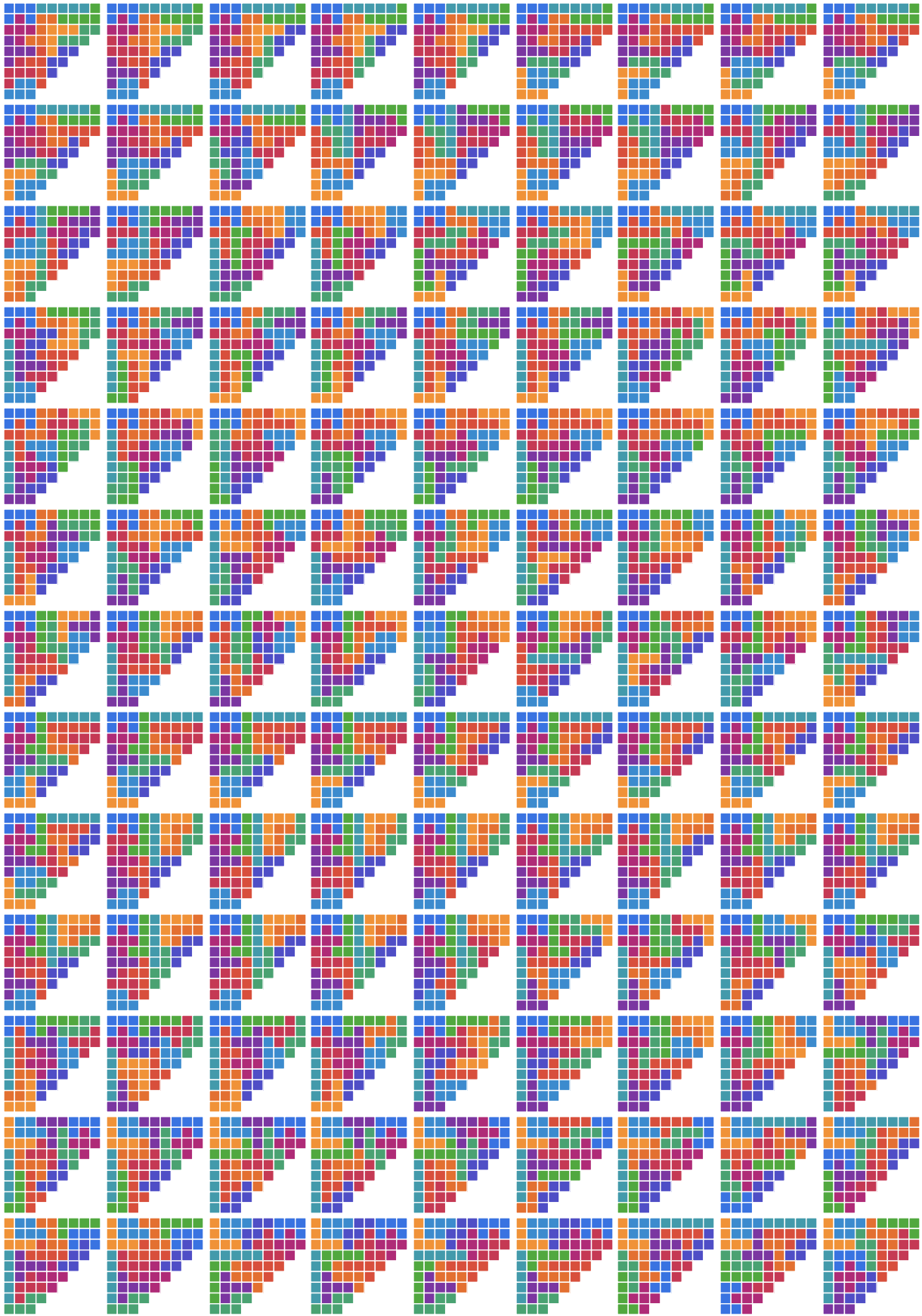


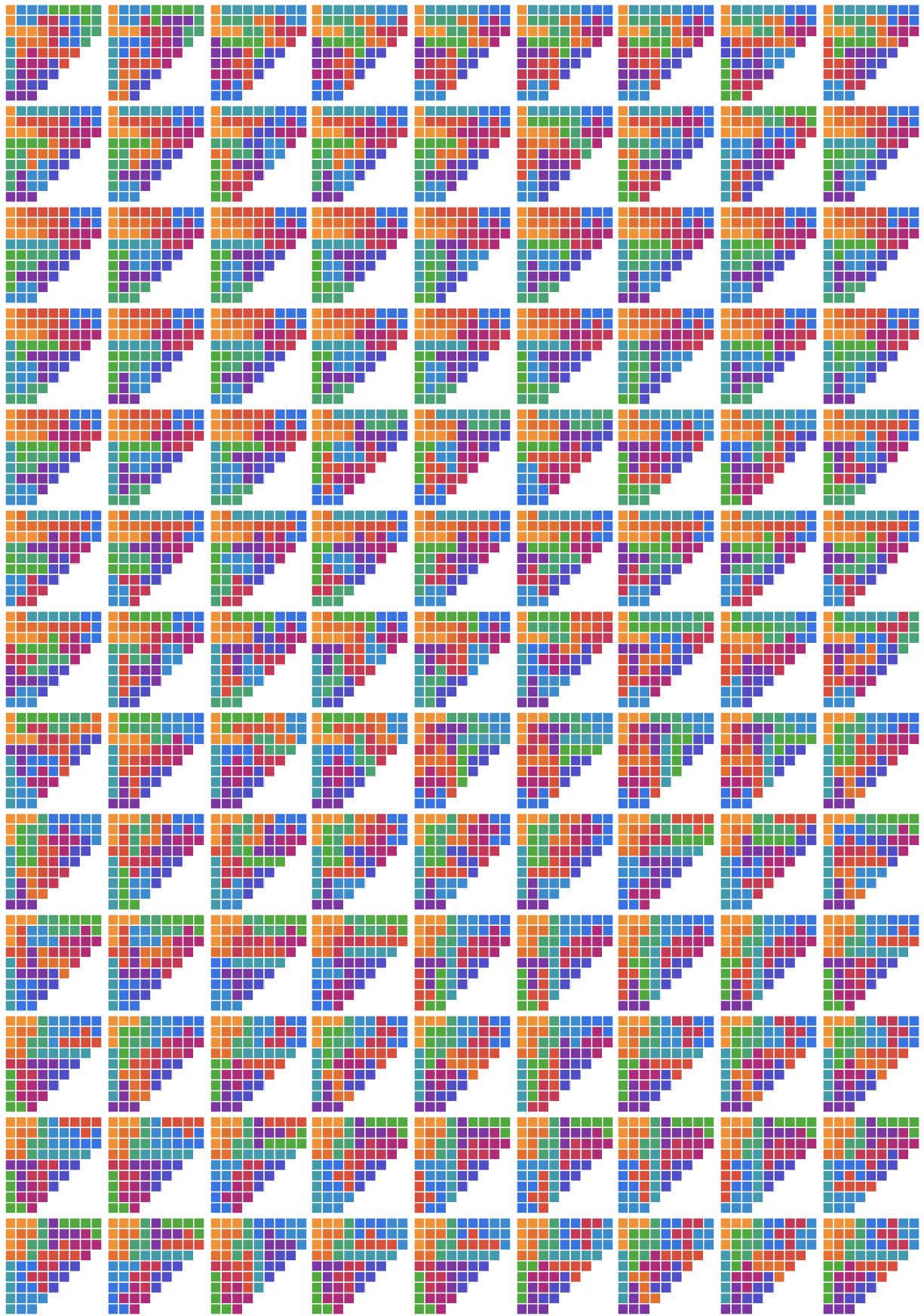


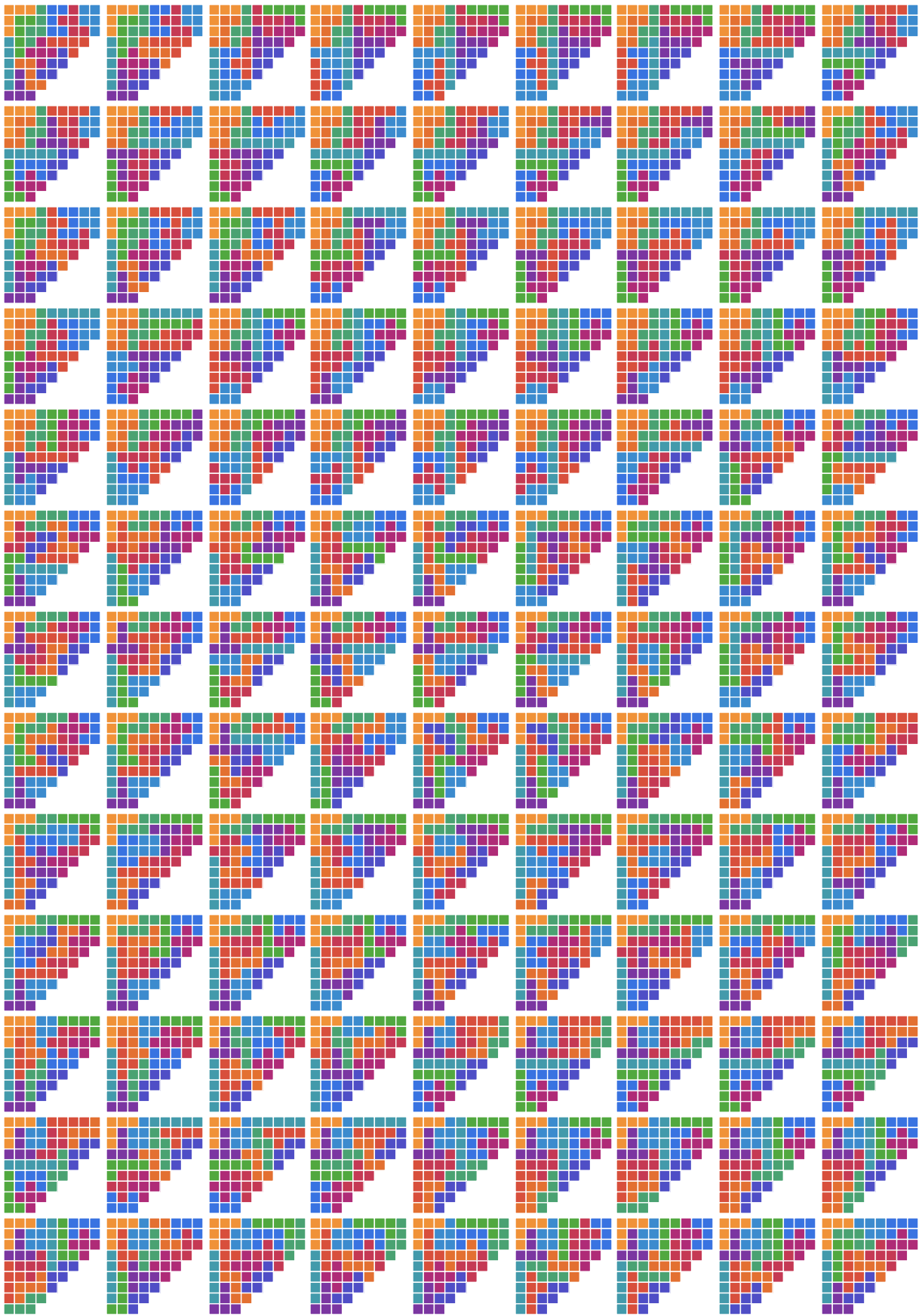


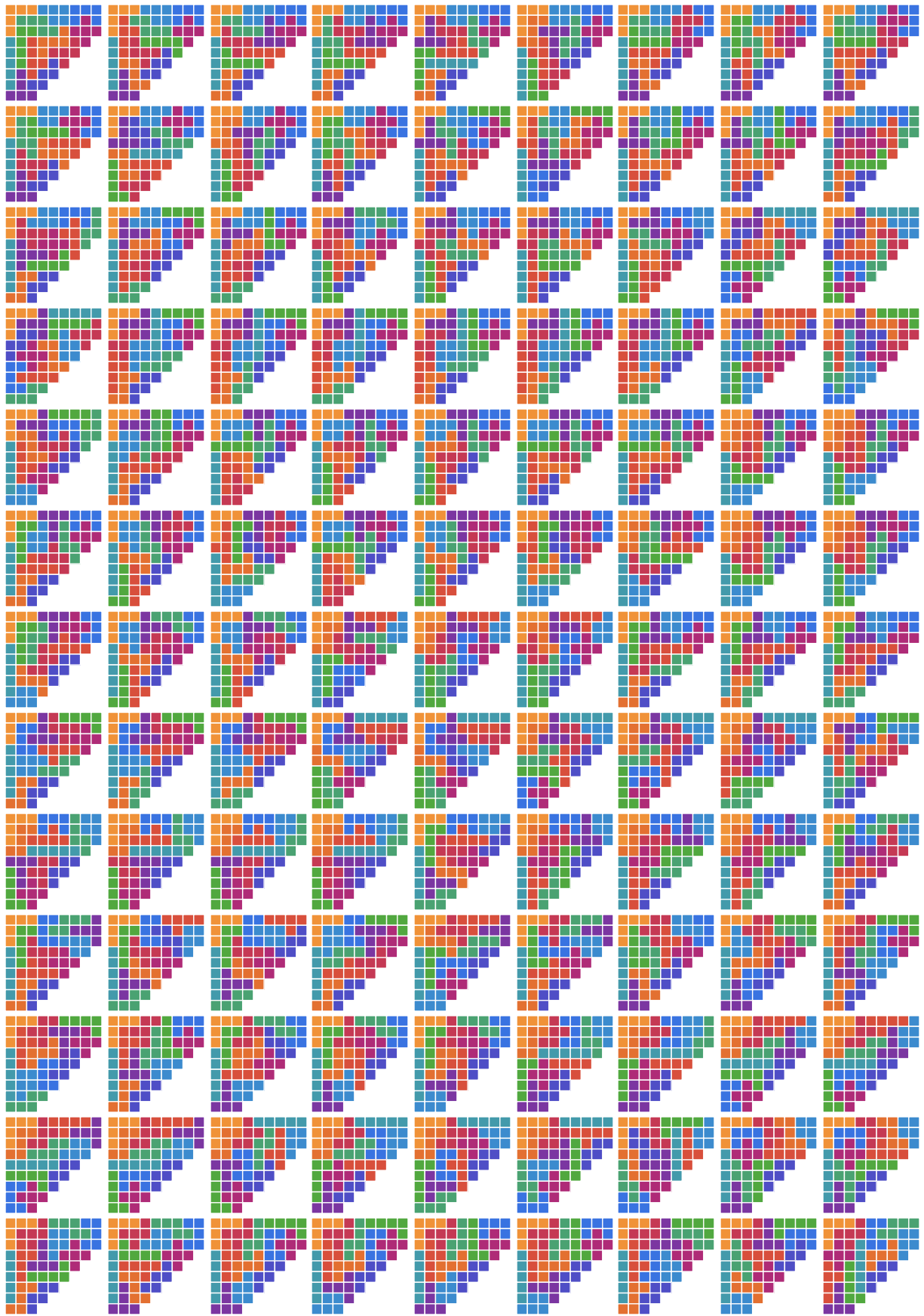


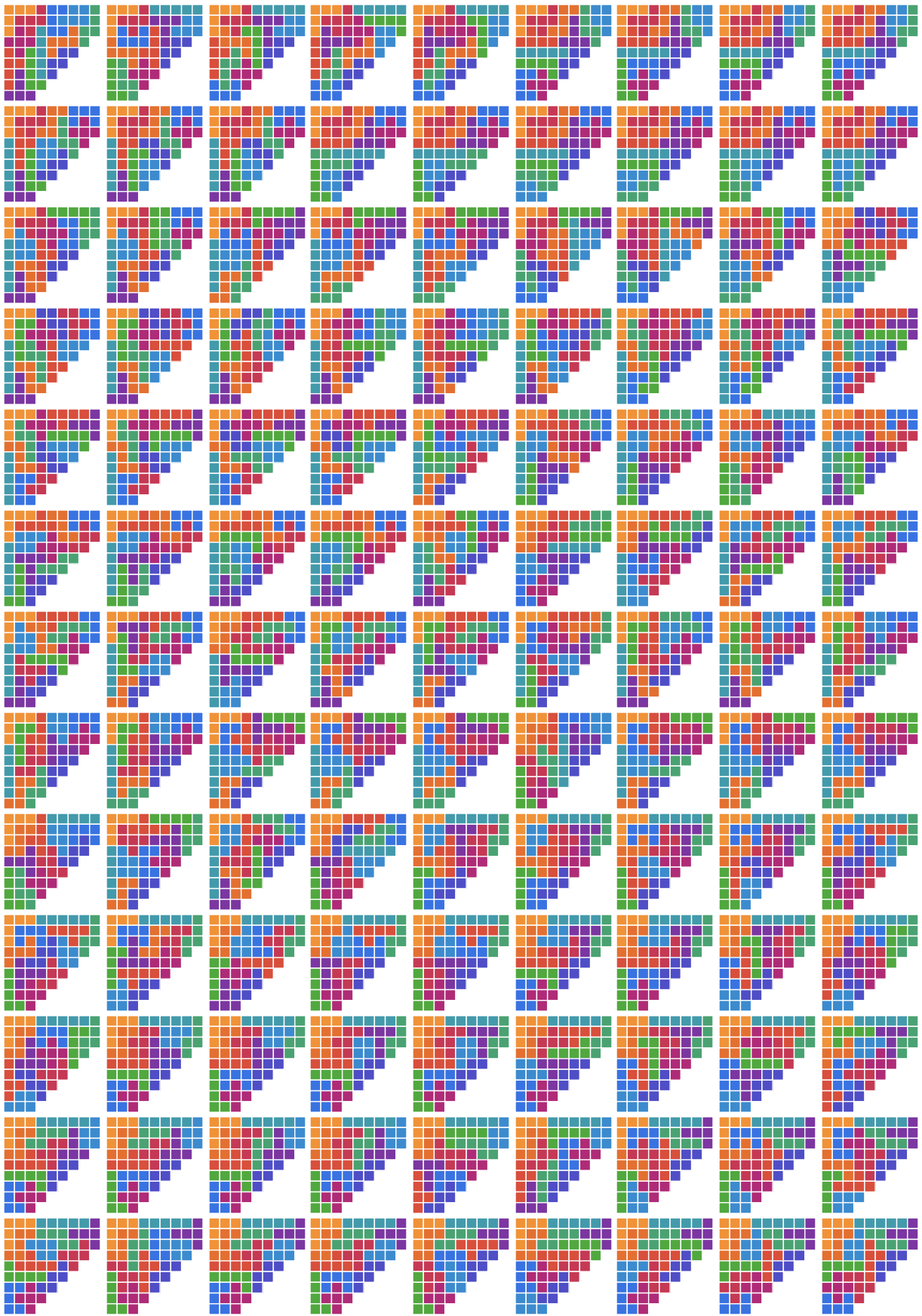




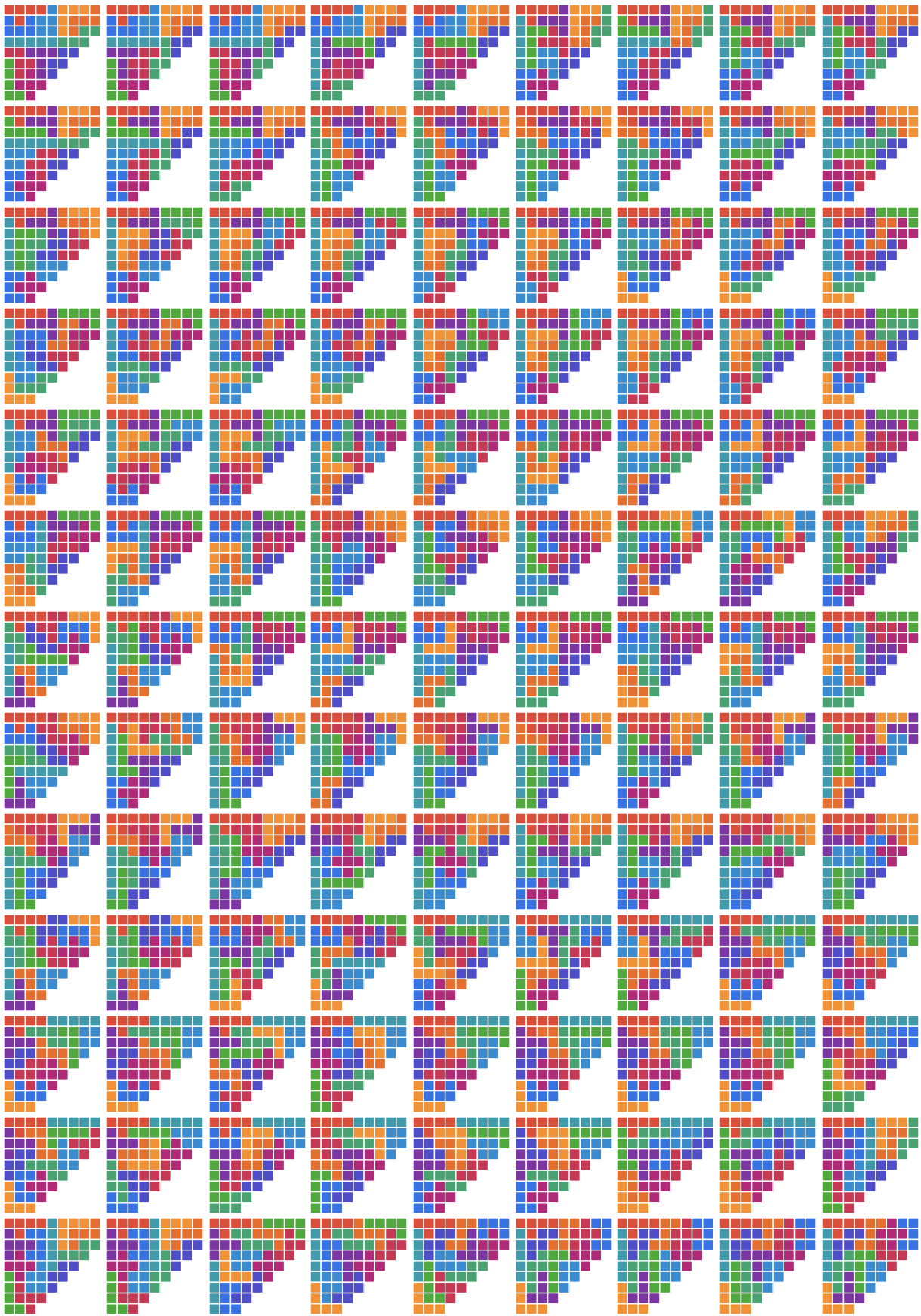






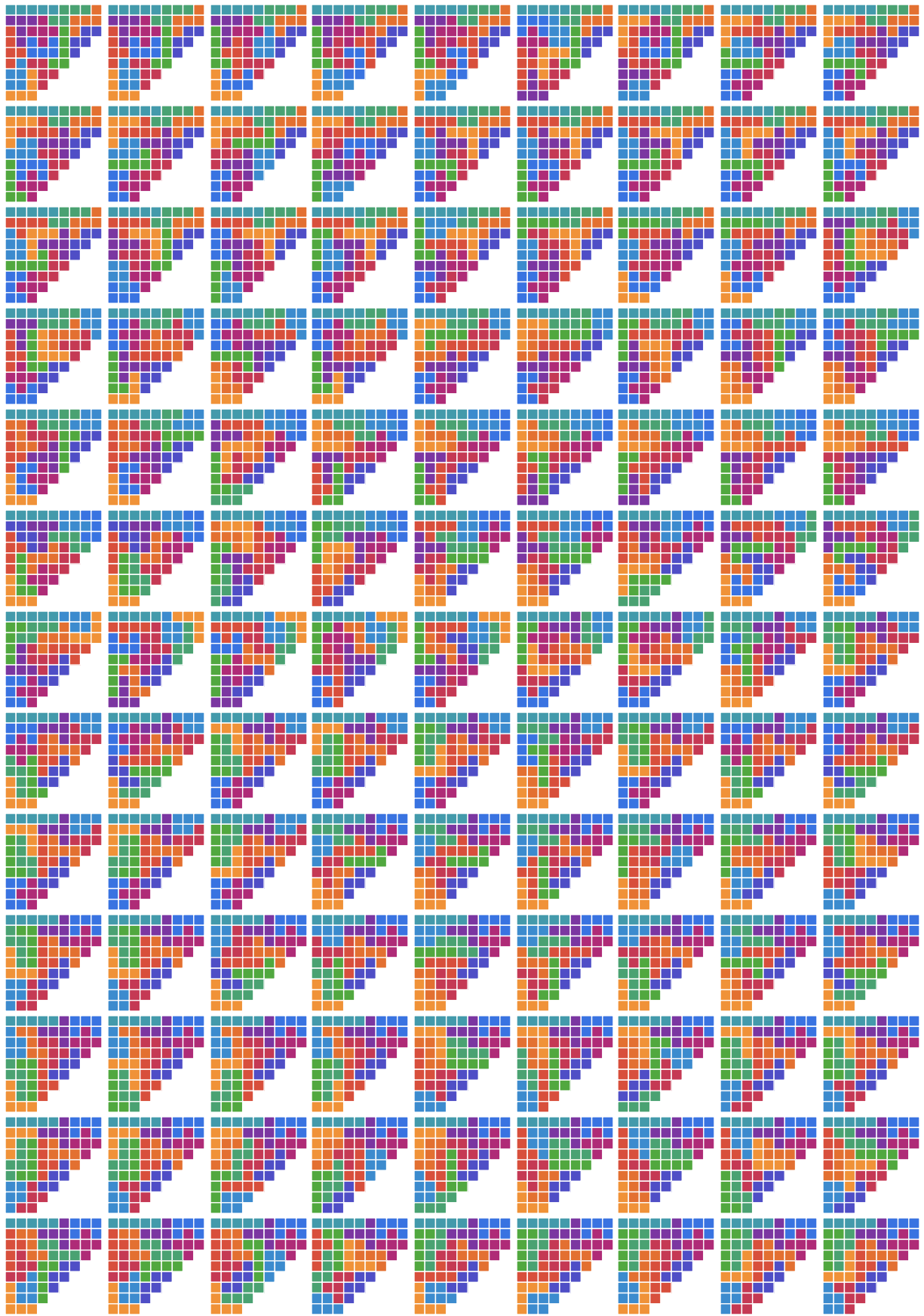




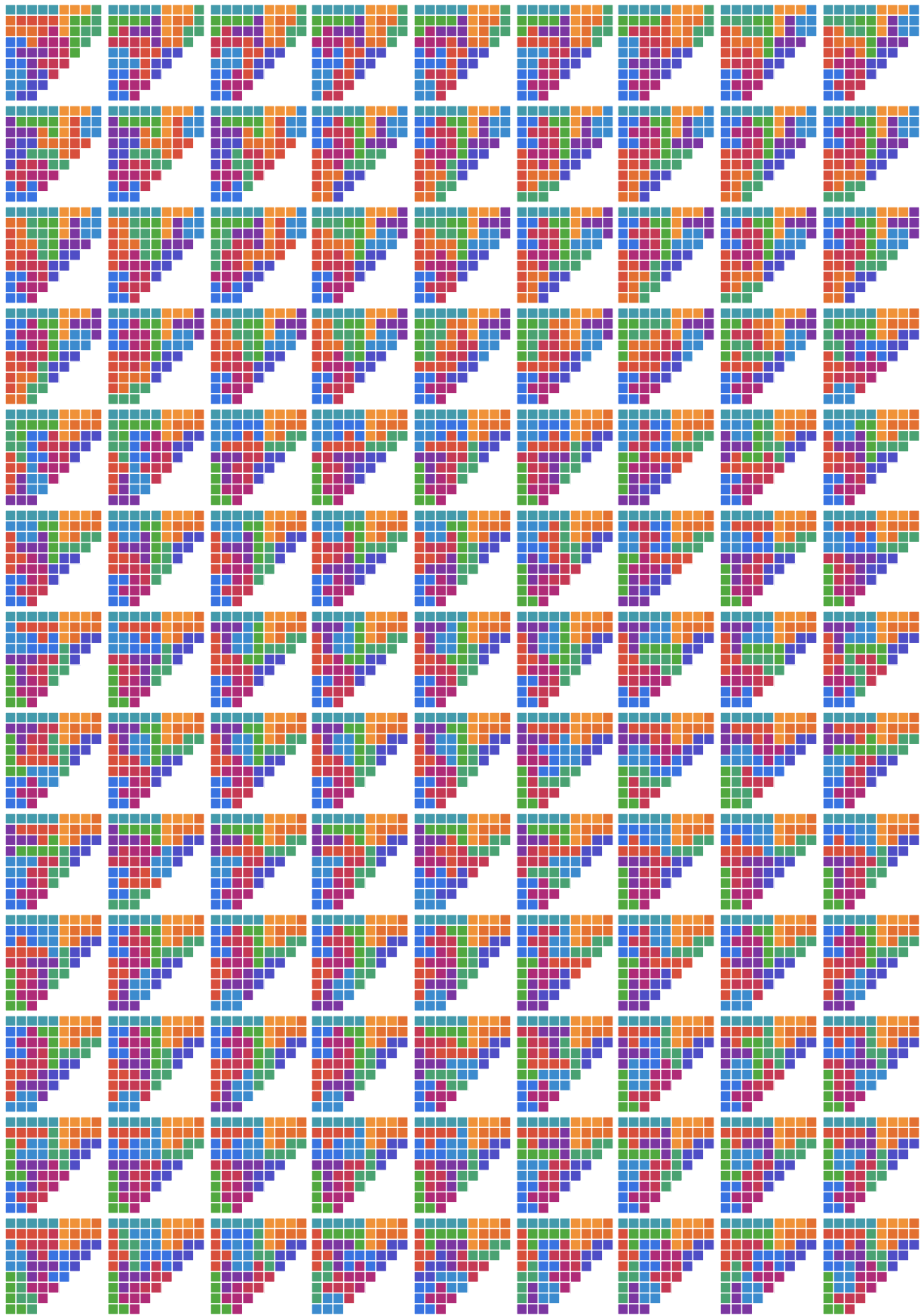


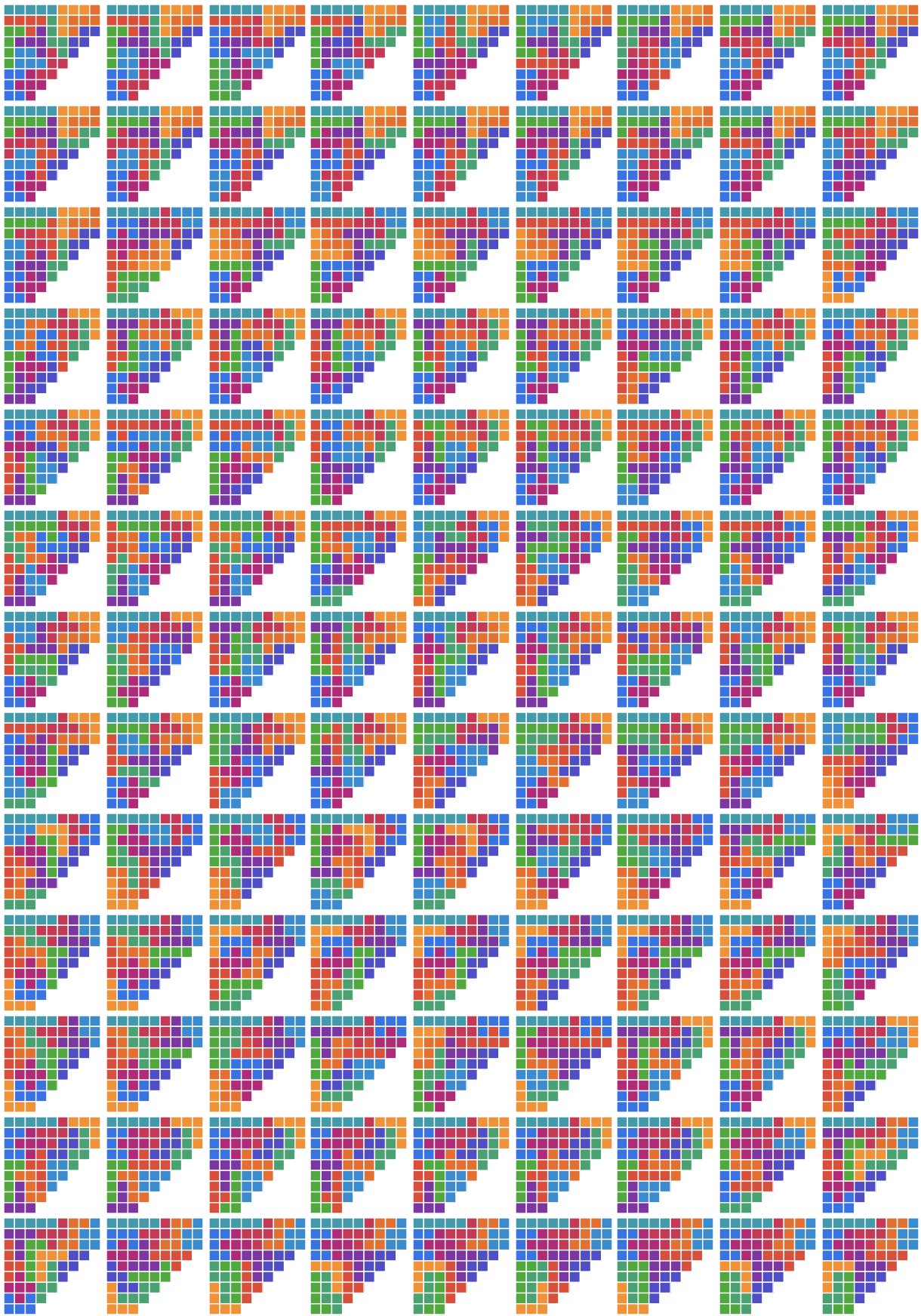




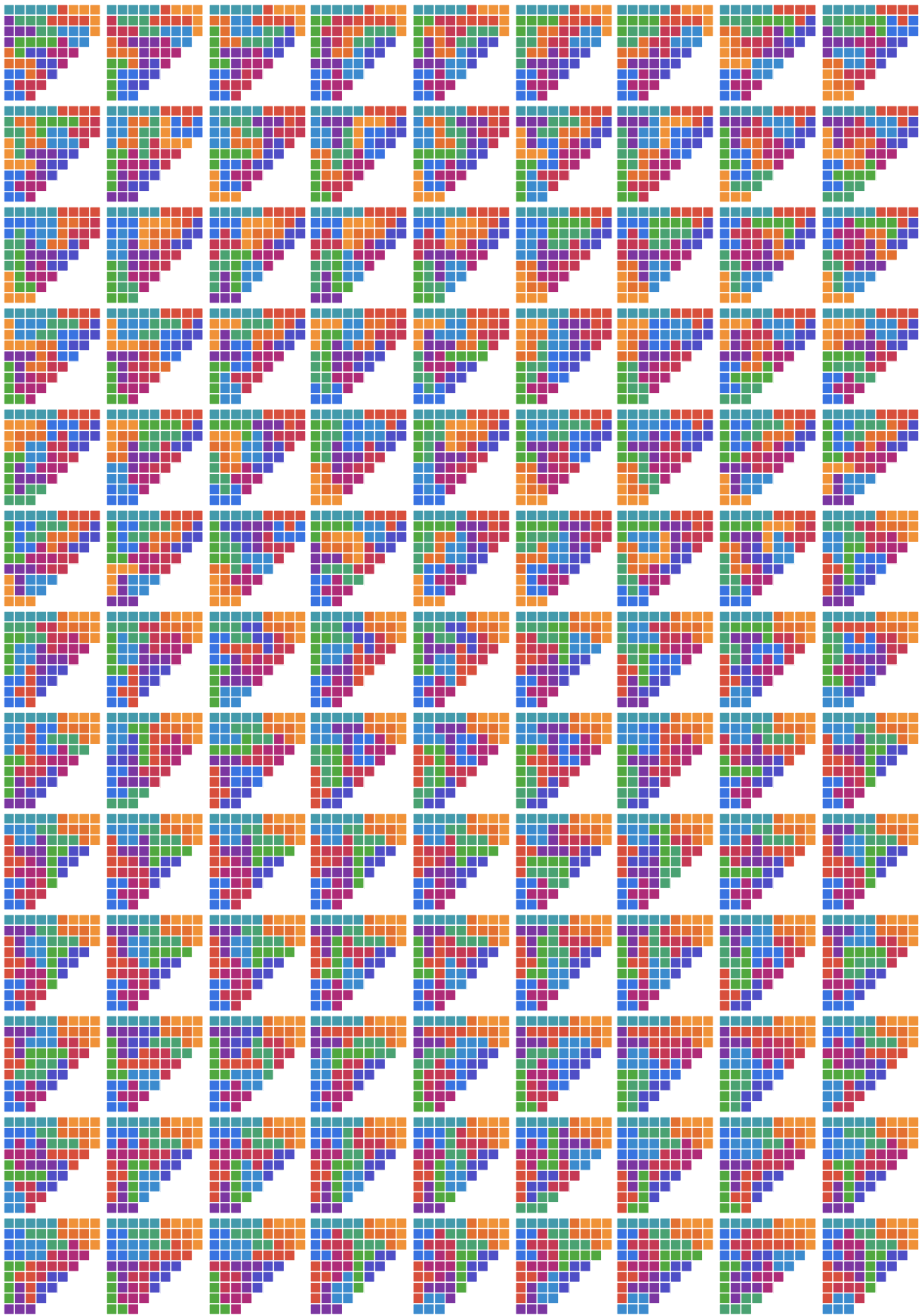




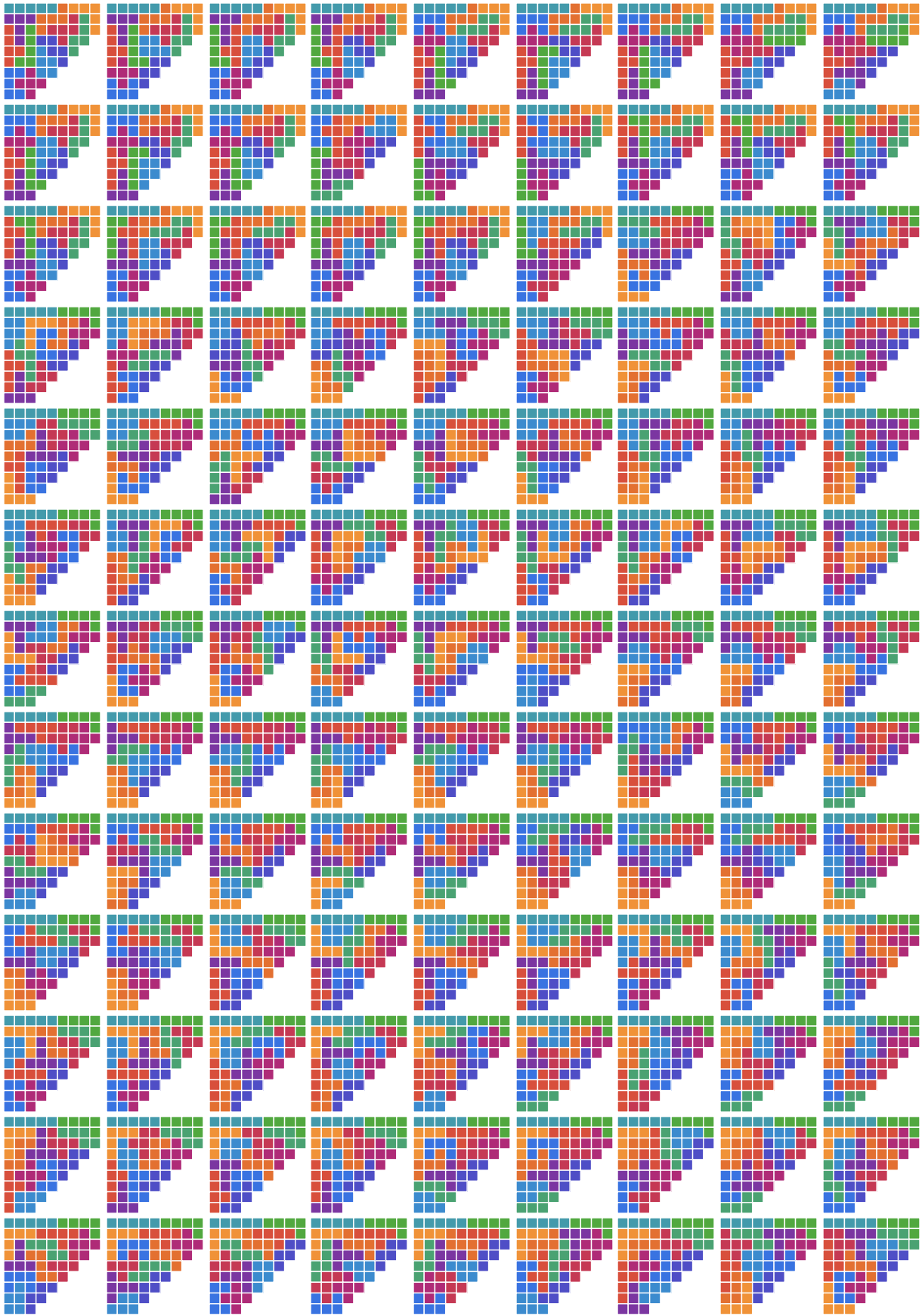




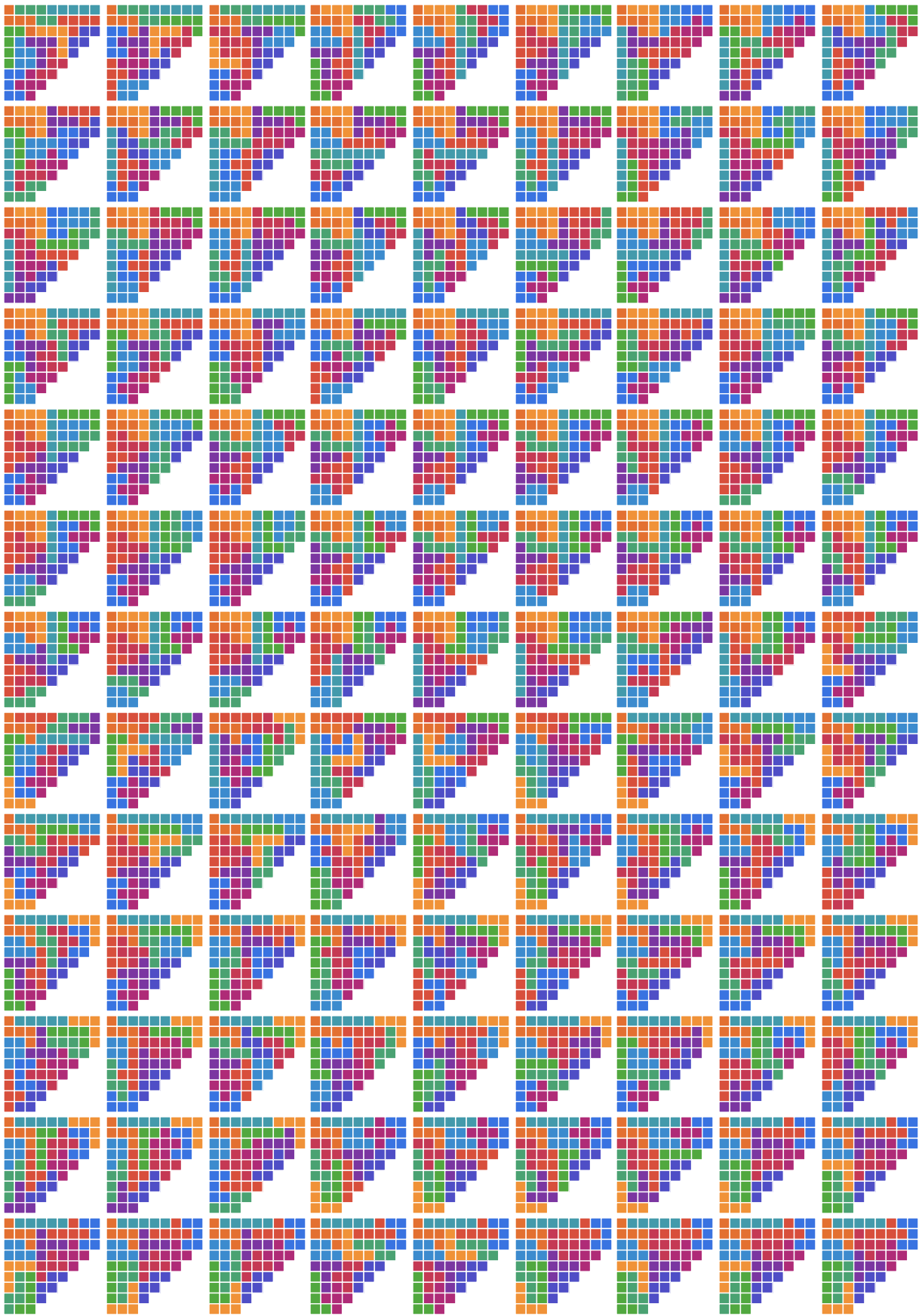






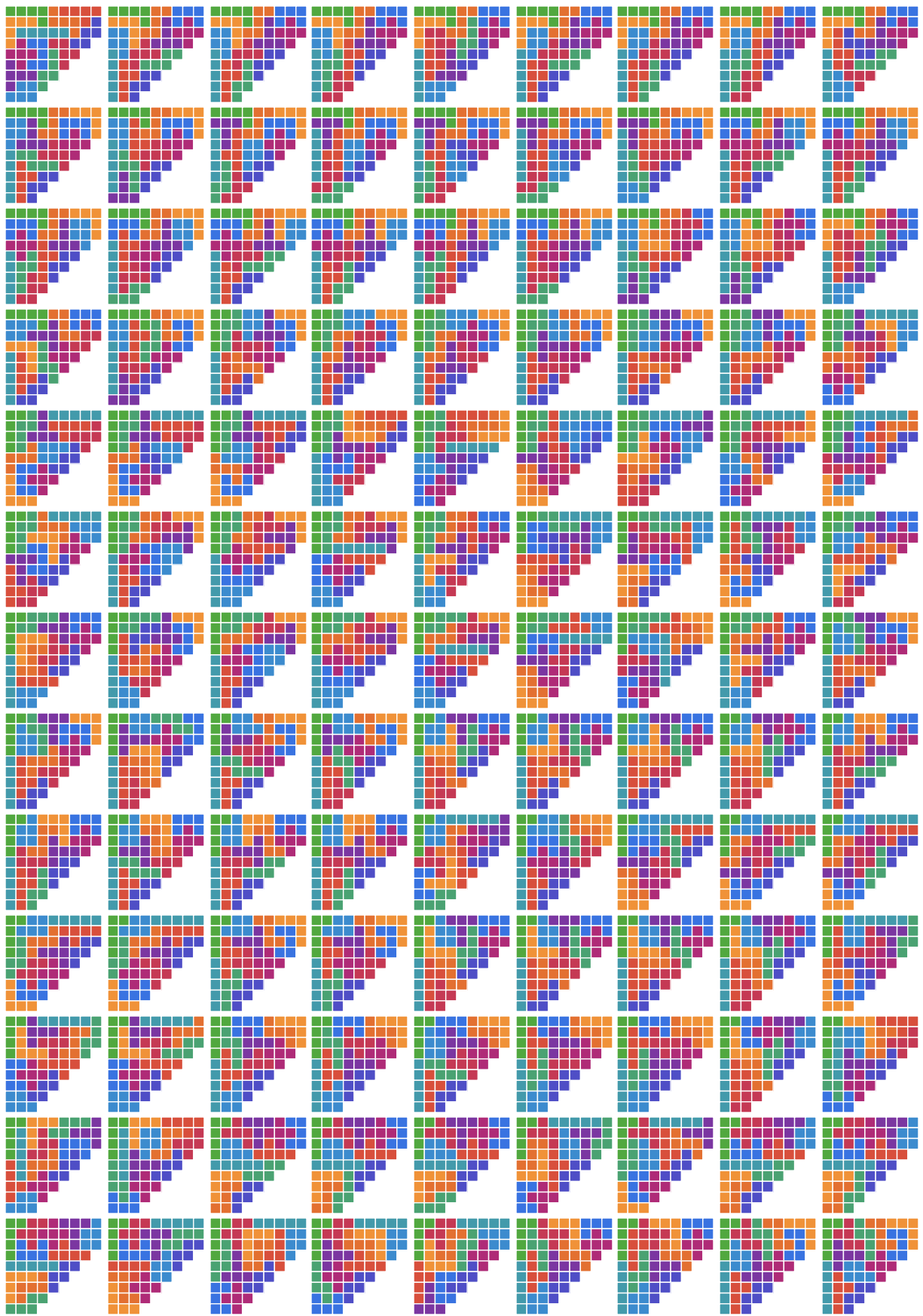




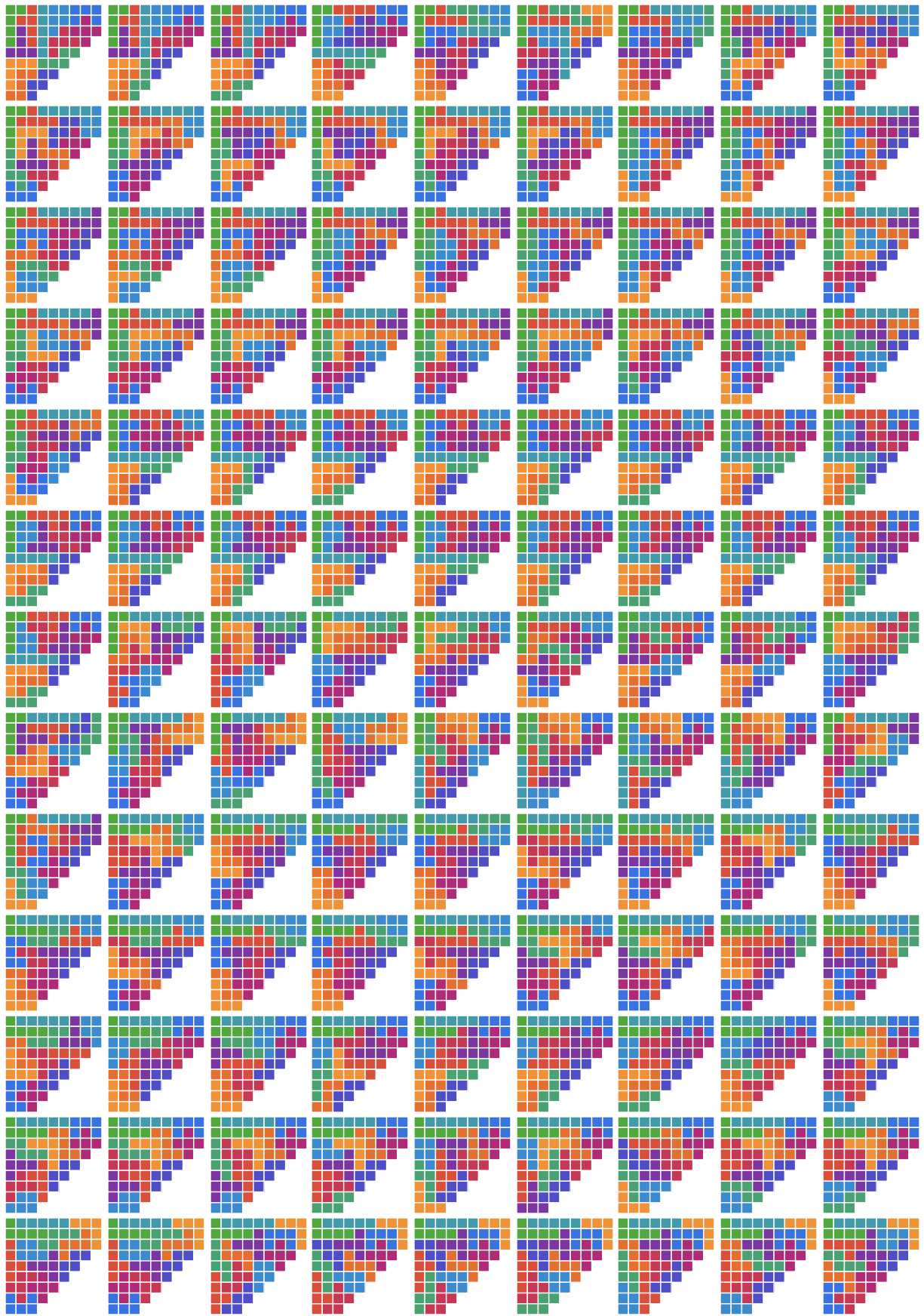


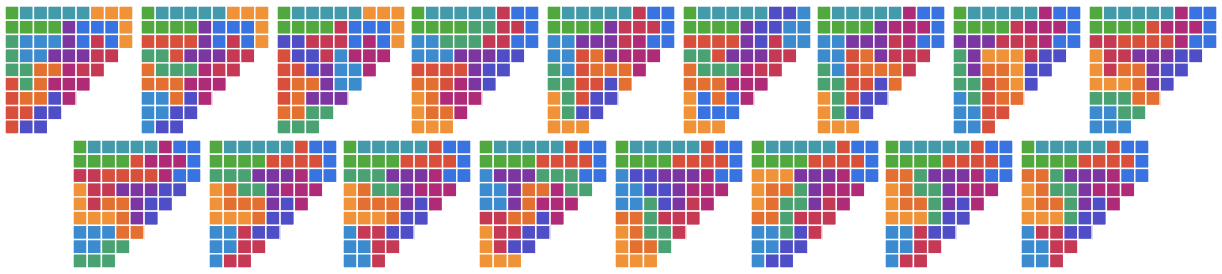


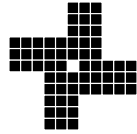






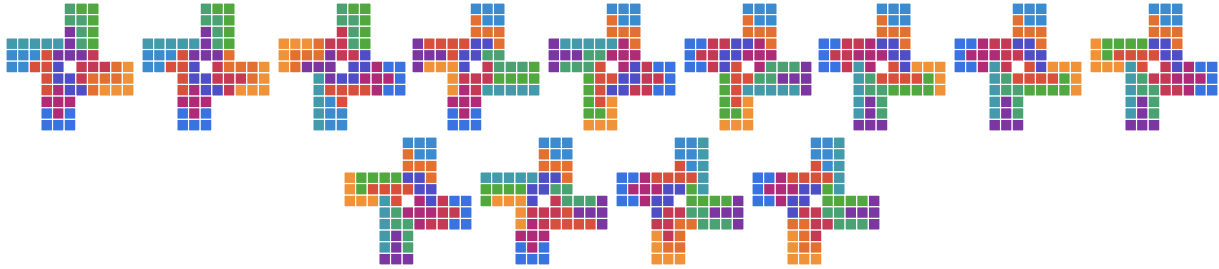




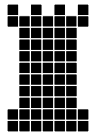


pinwheel

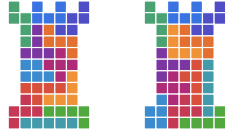
13 Solutions







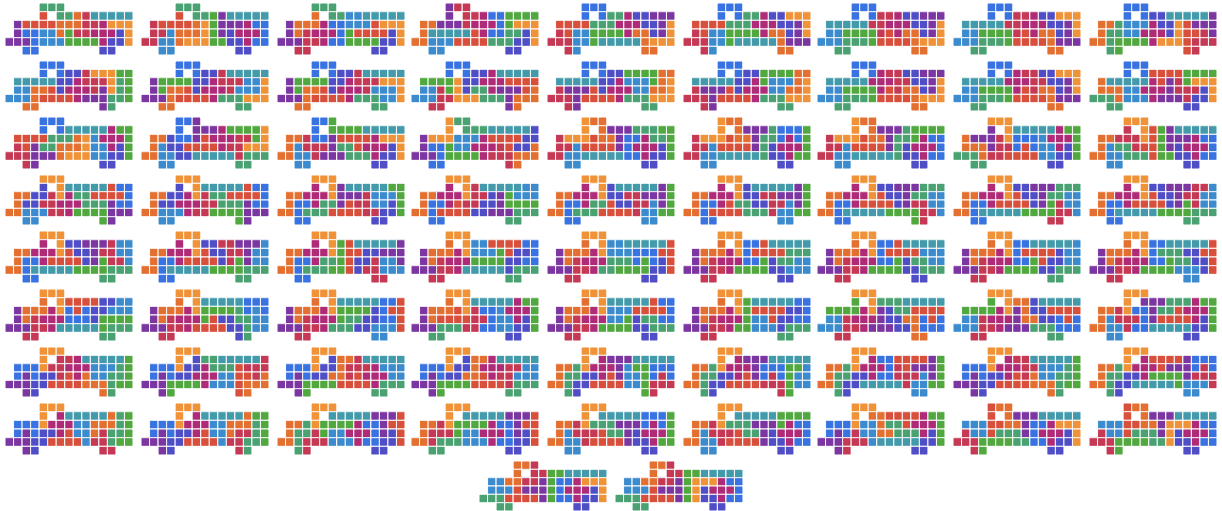
castle
2 Solutions

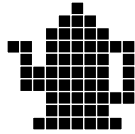




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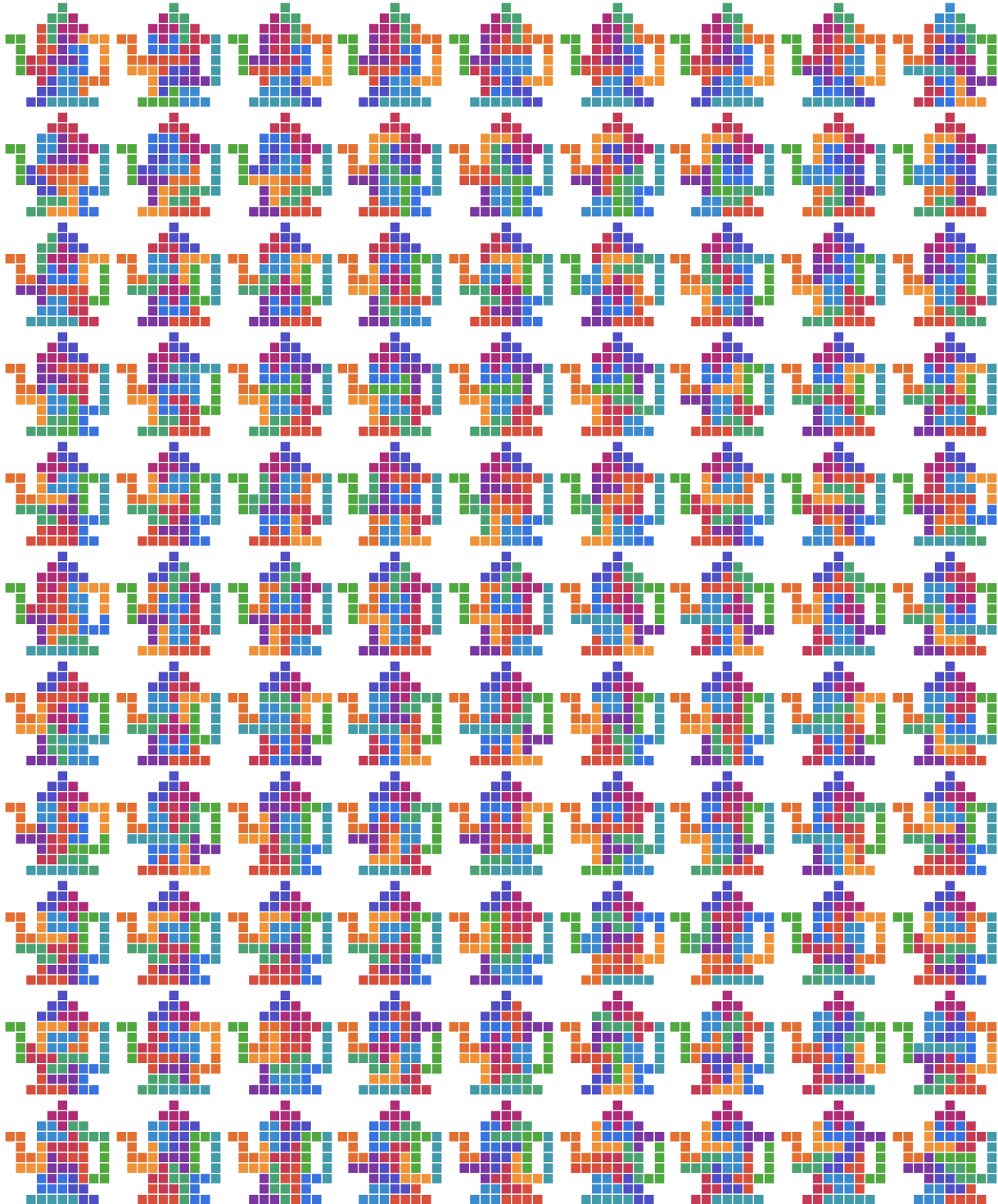
74 Solutions

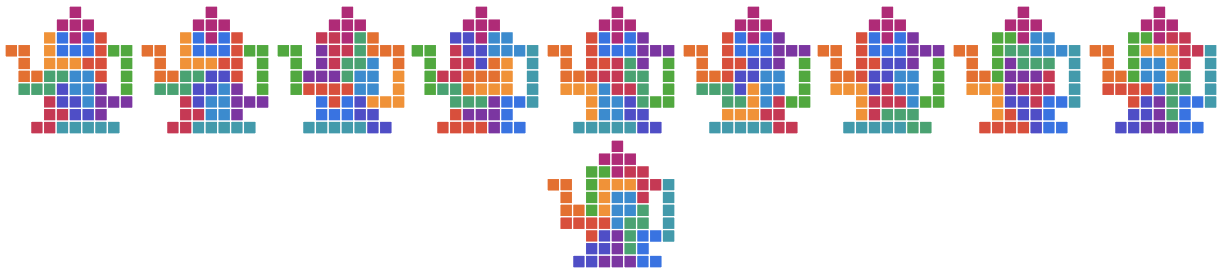




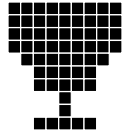
teapot

109 Solutions





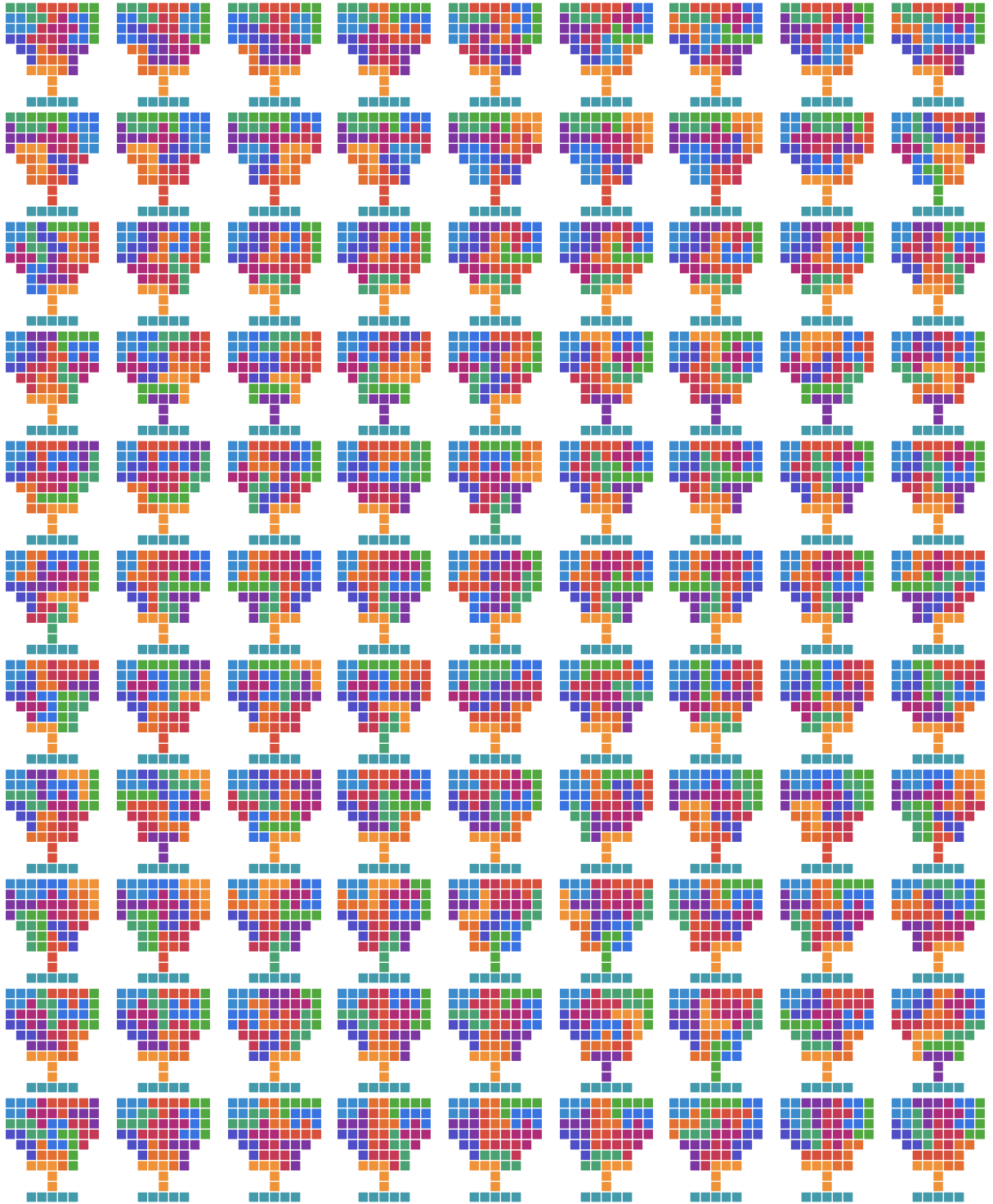


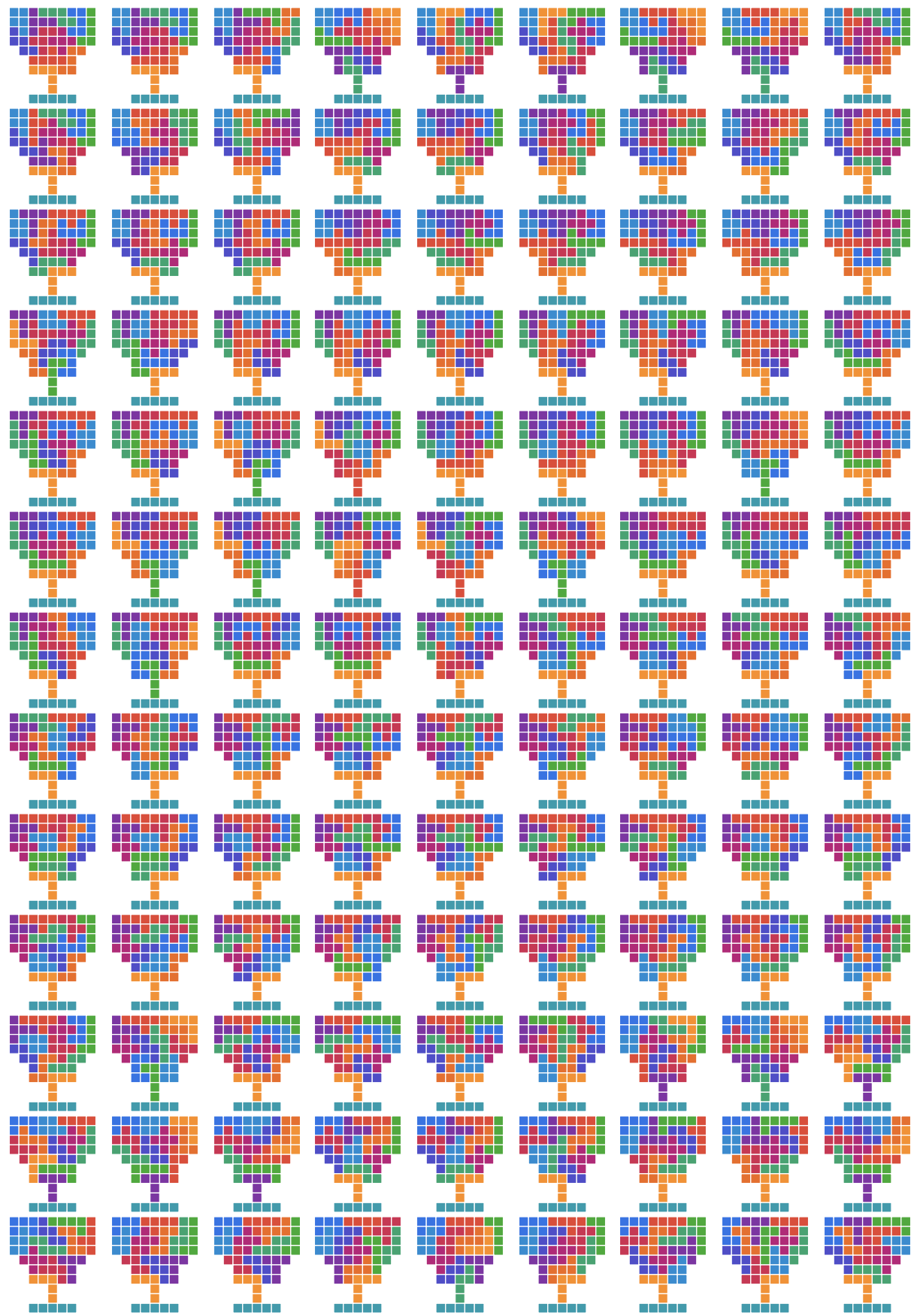


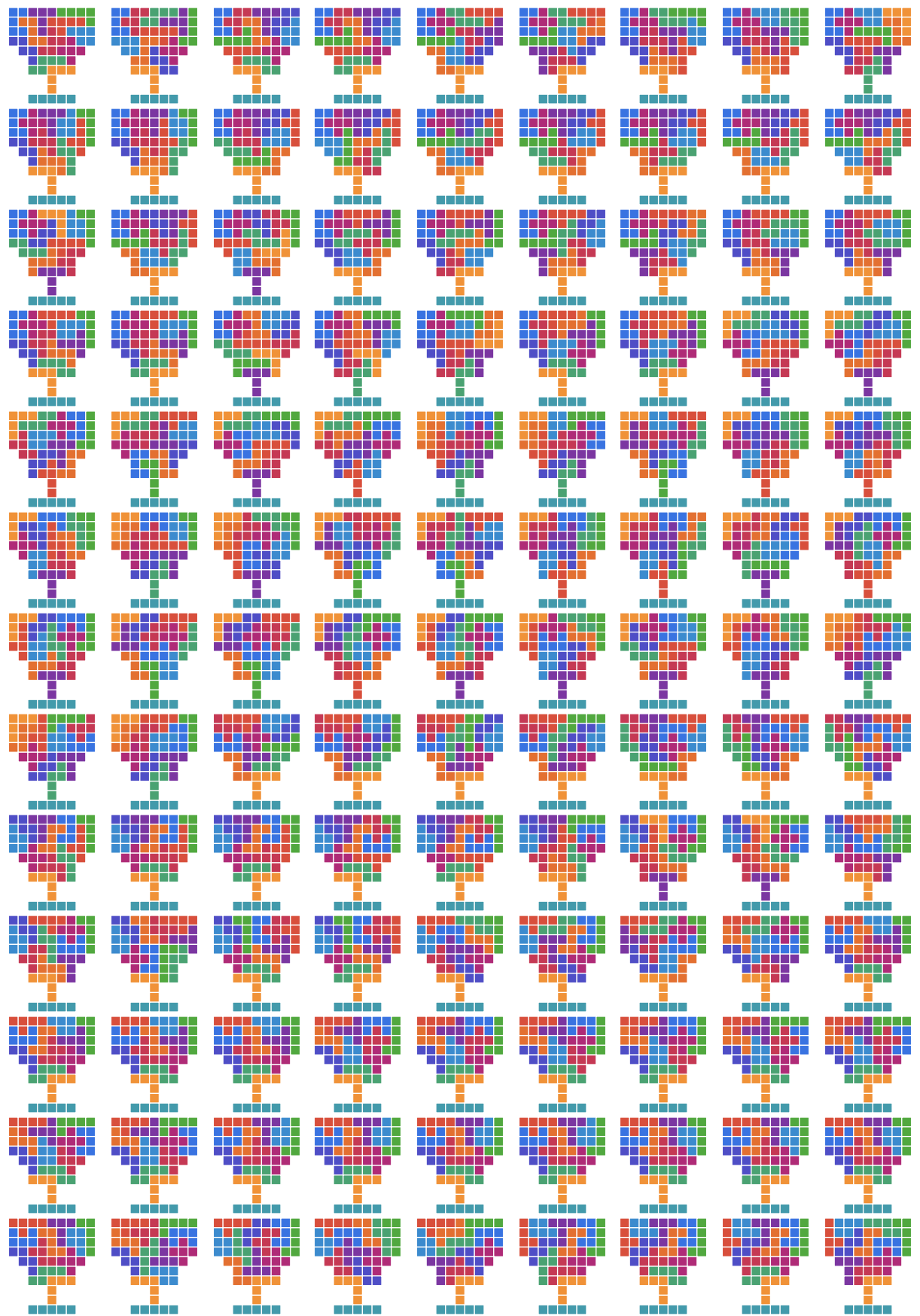
cup

403

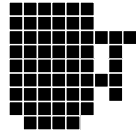
Solutions



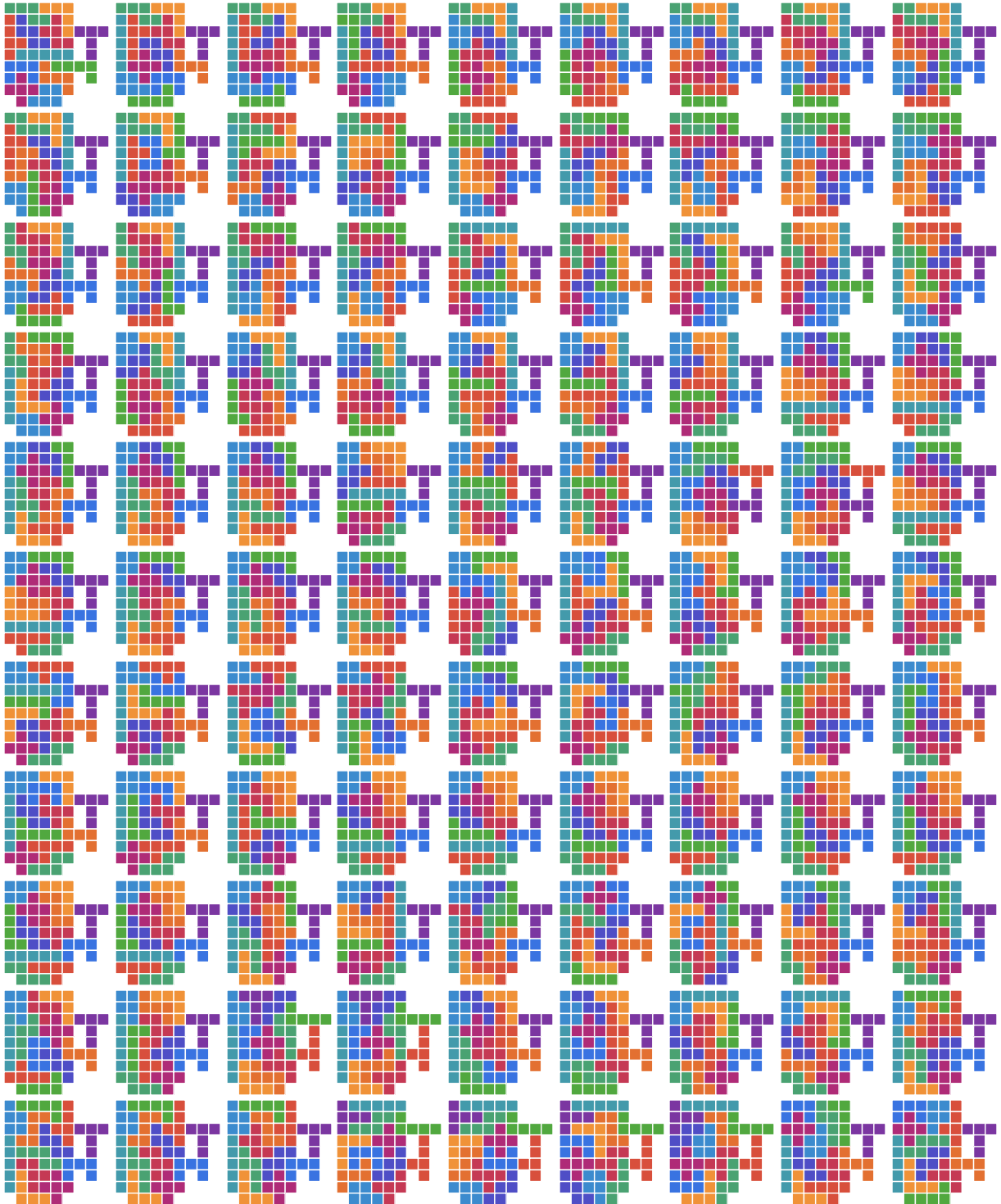


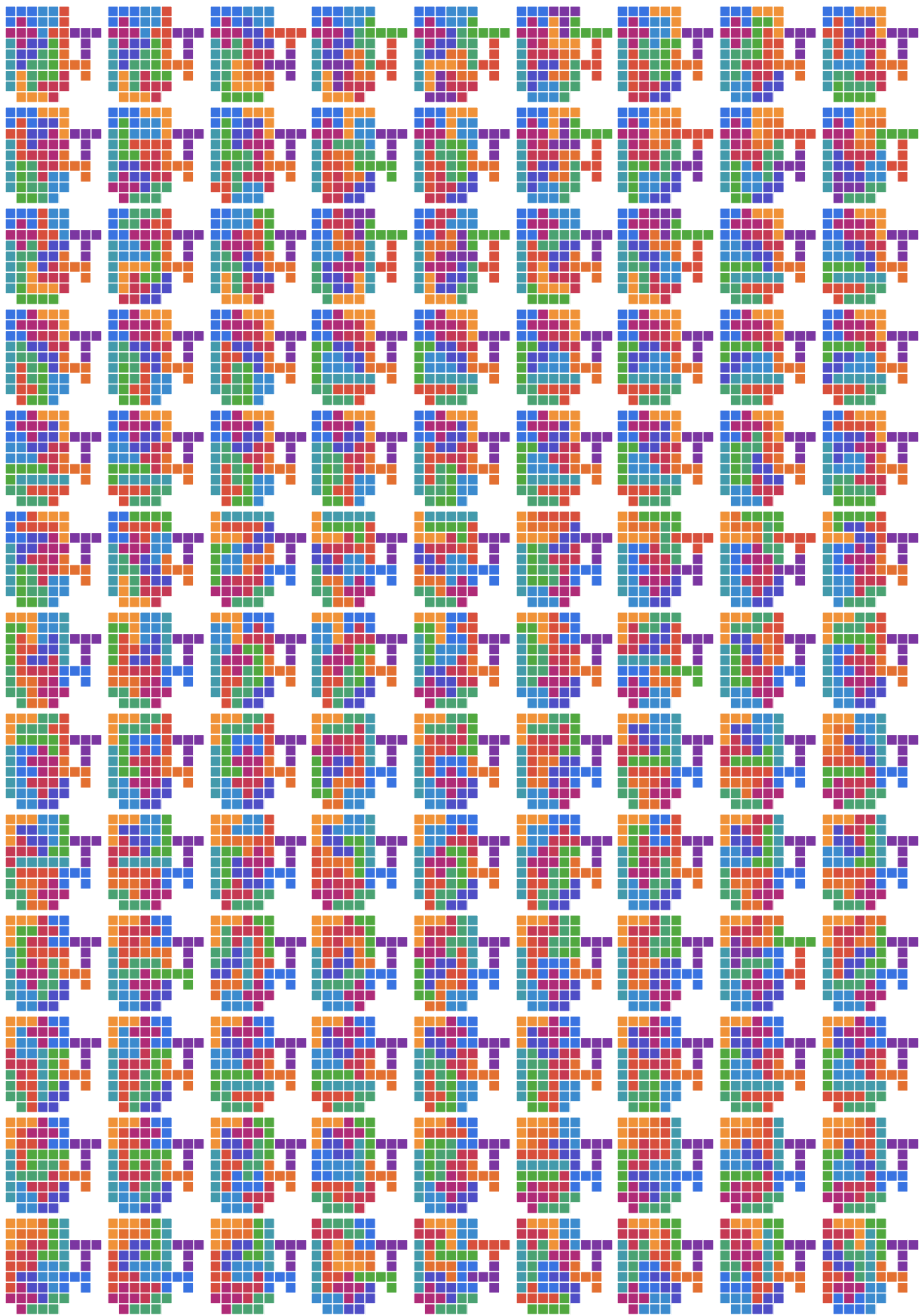


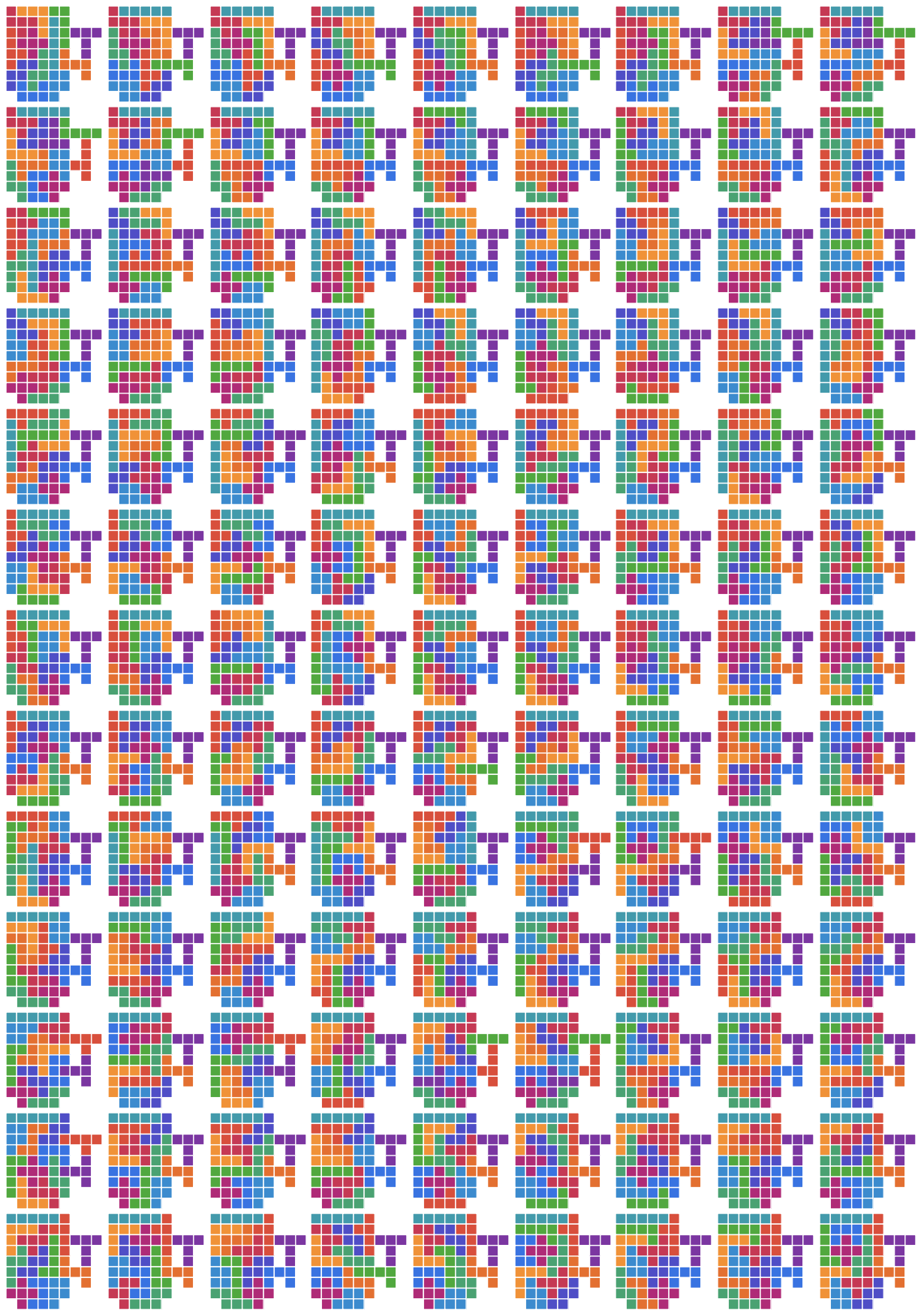


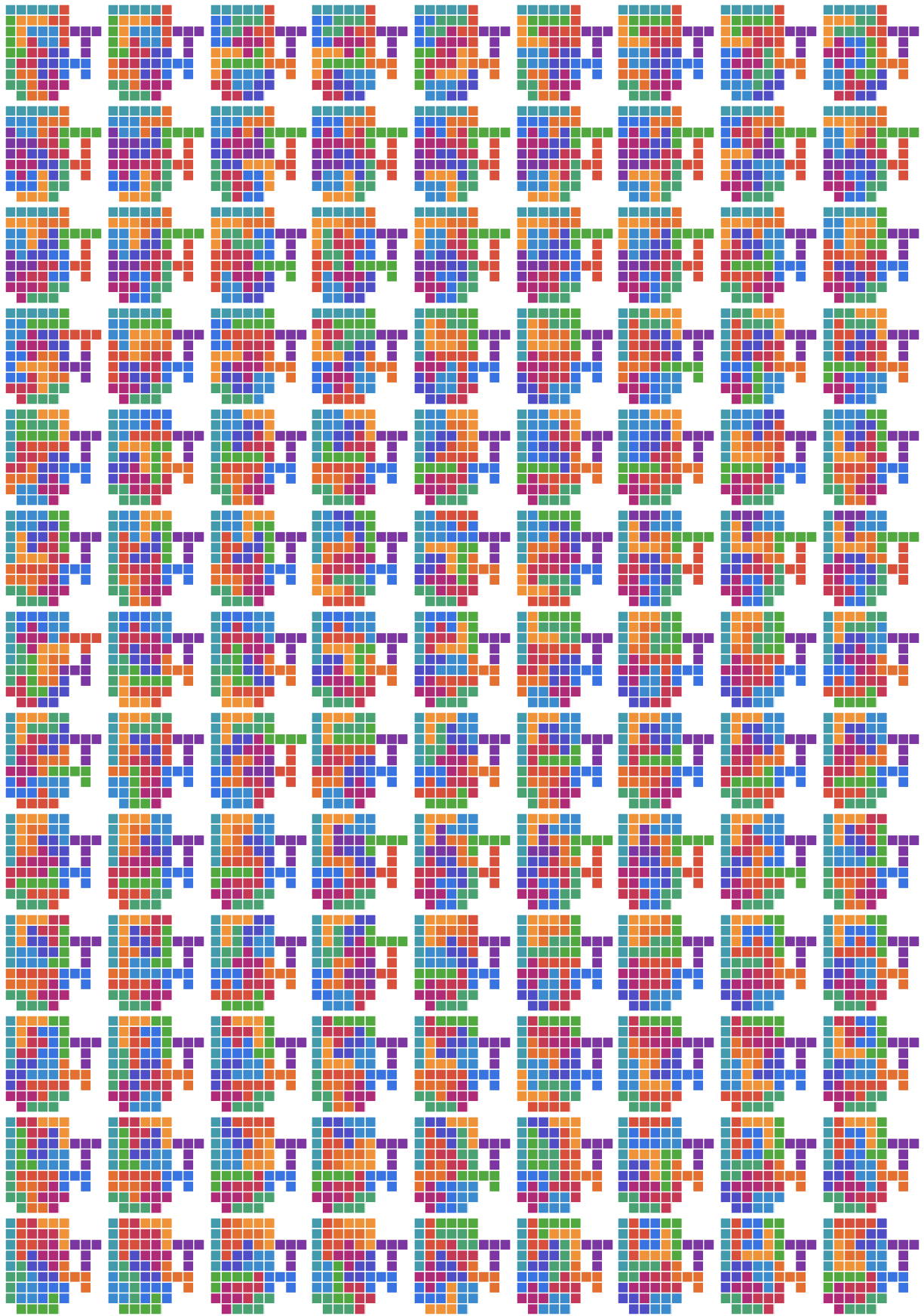


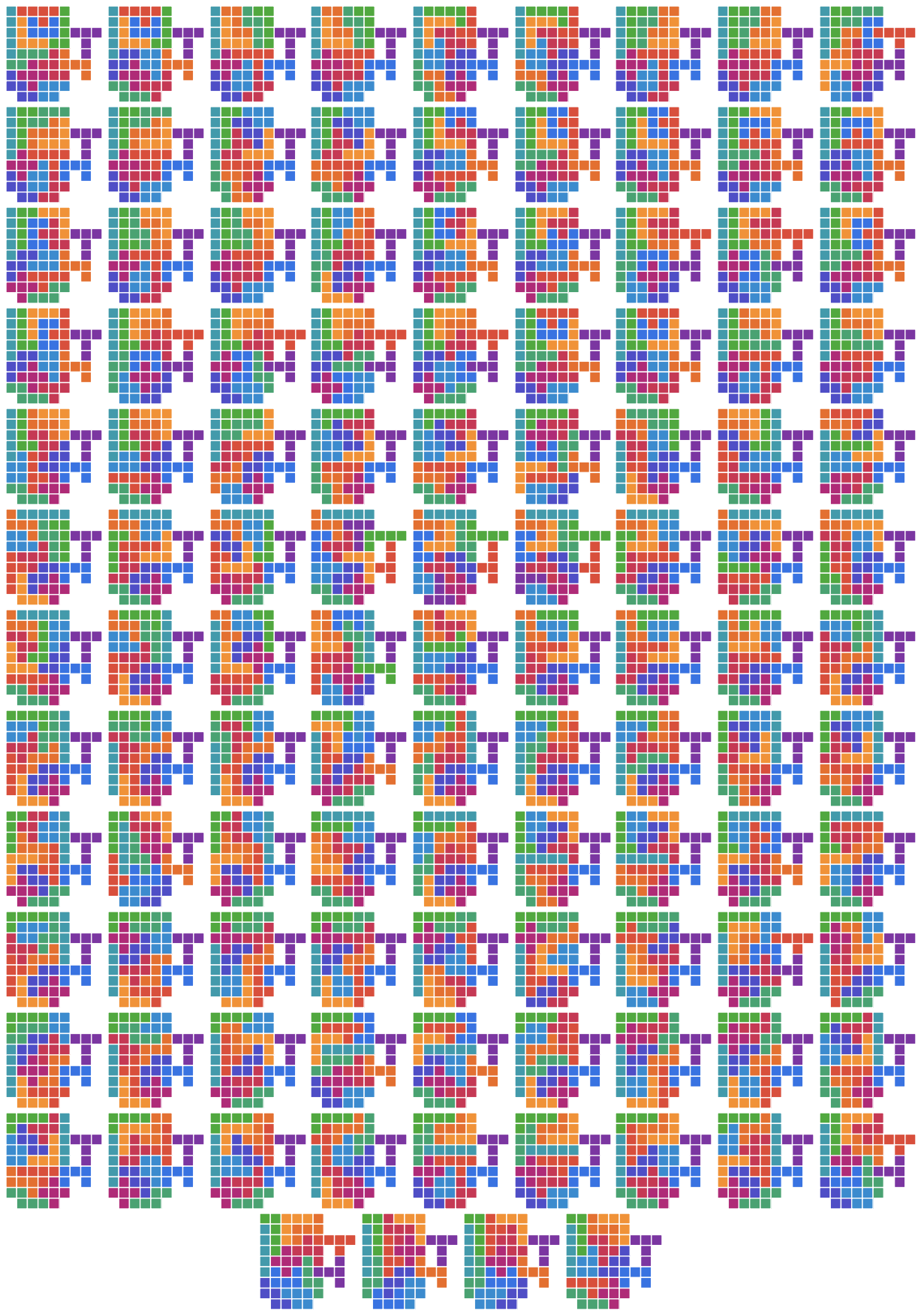
coffee
562 Solutions

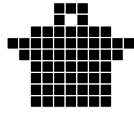




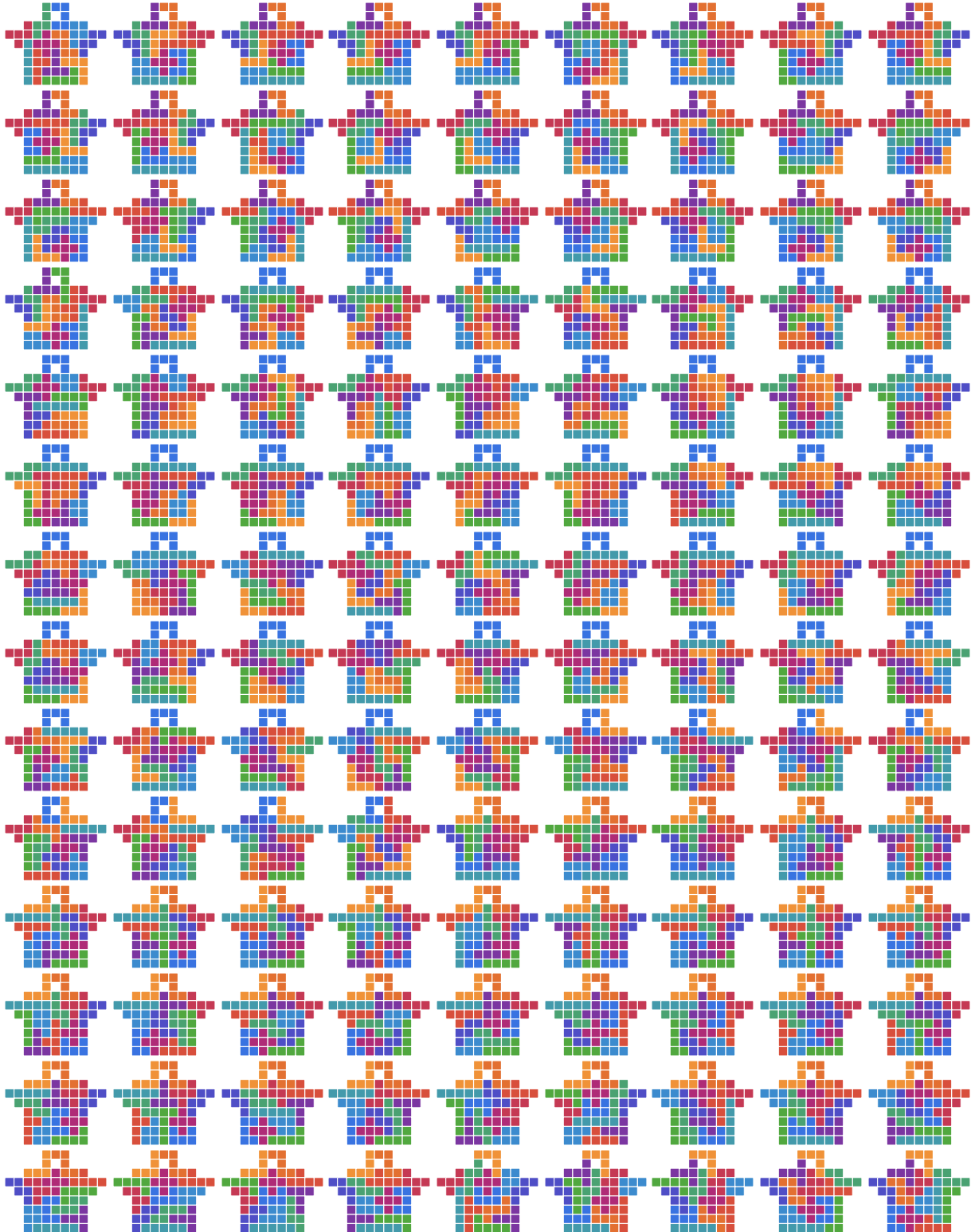


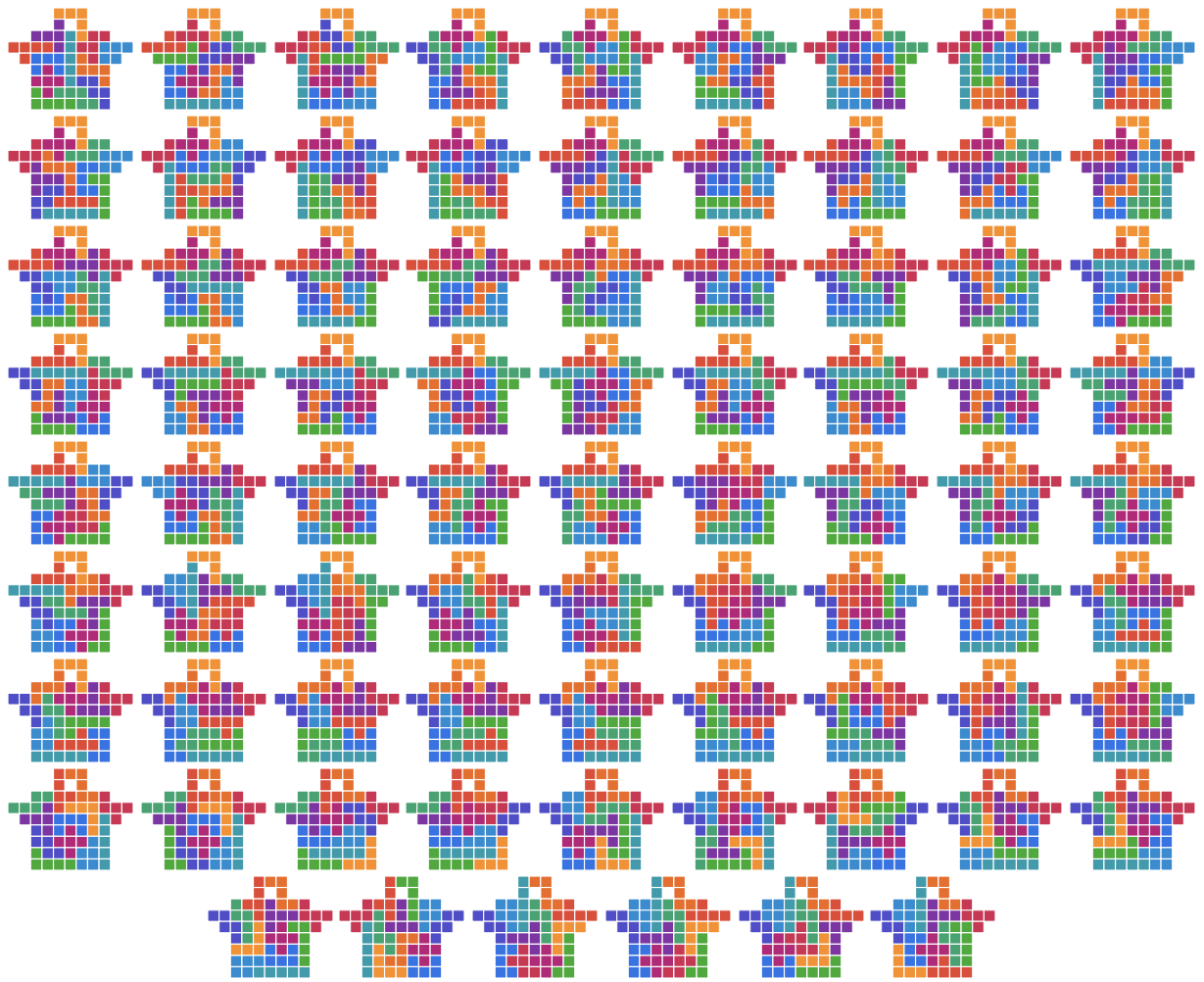


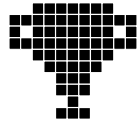




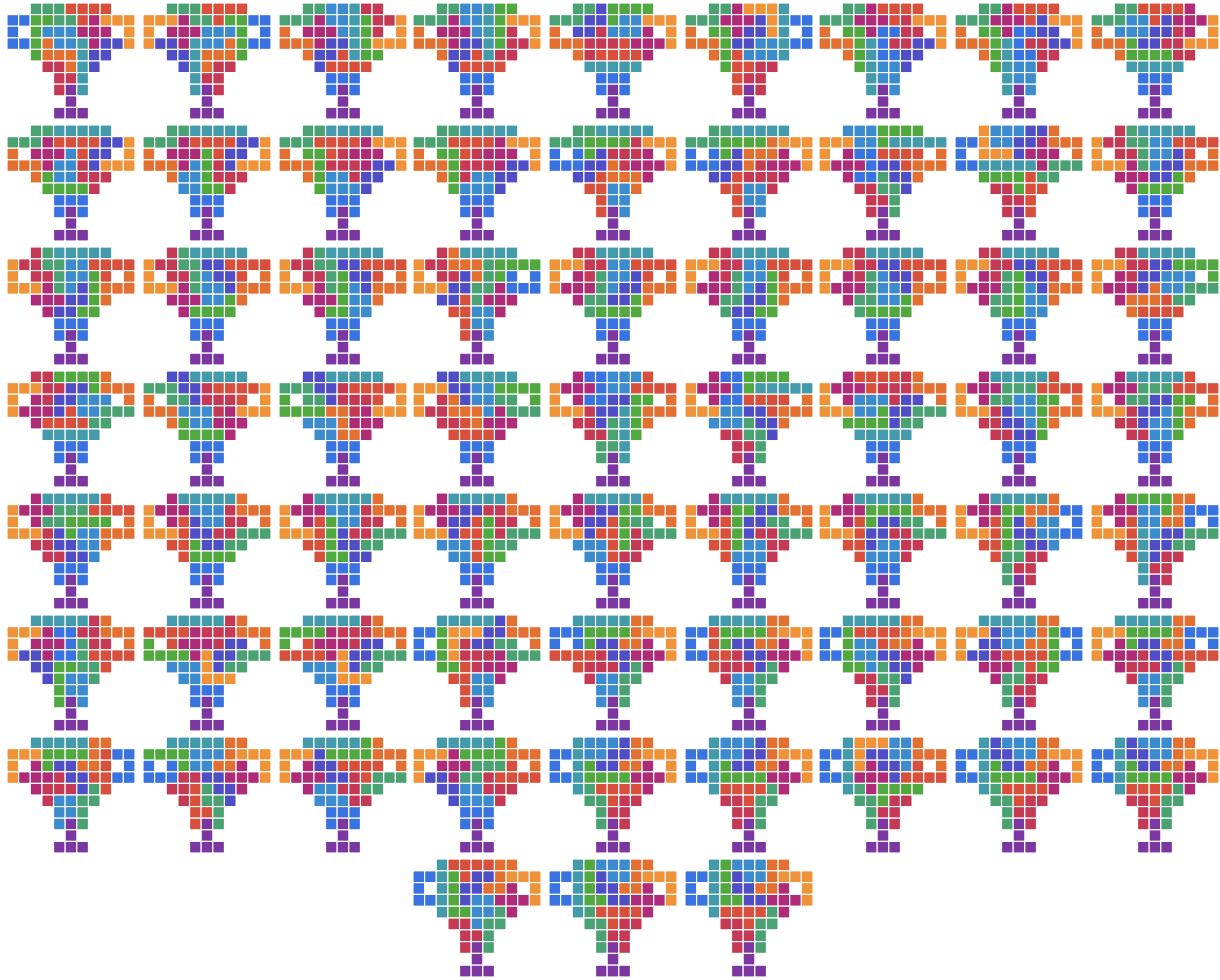
pot
204
Solutions

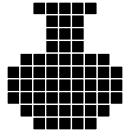




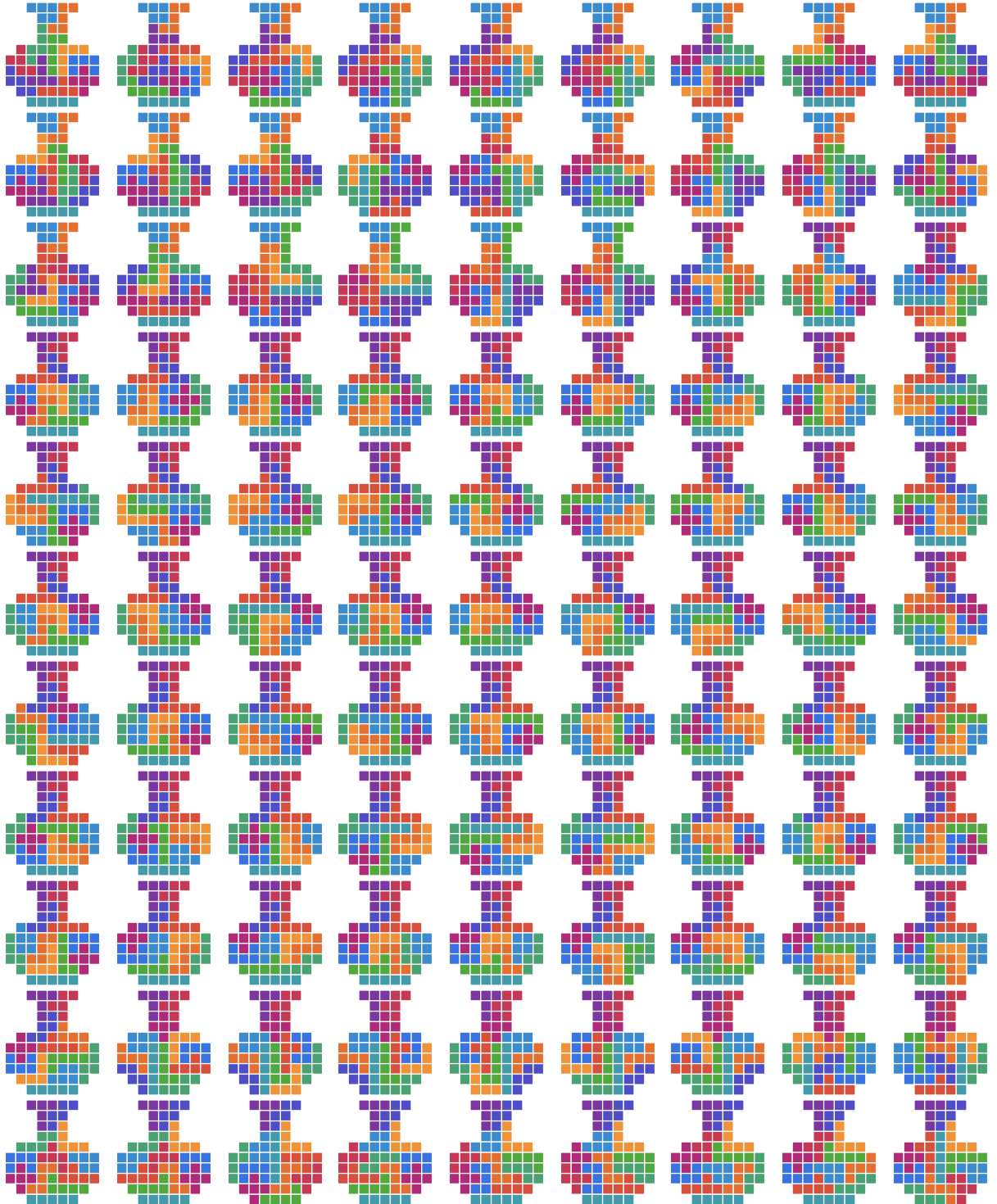


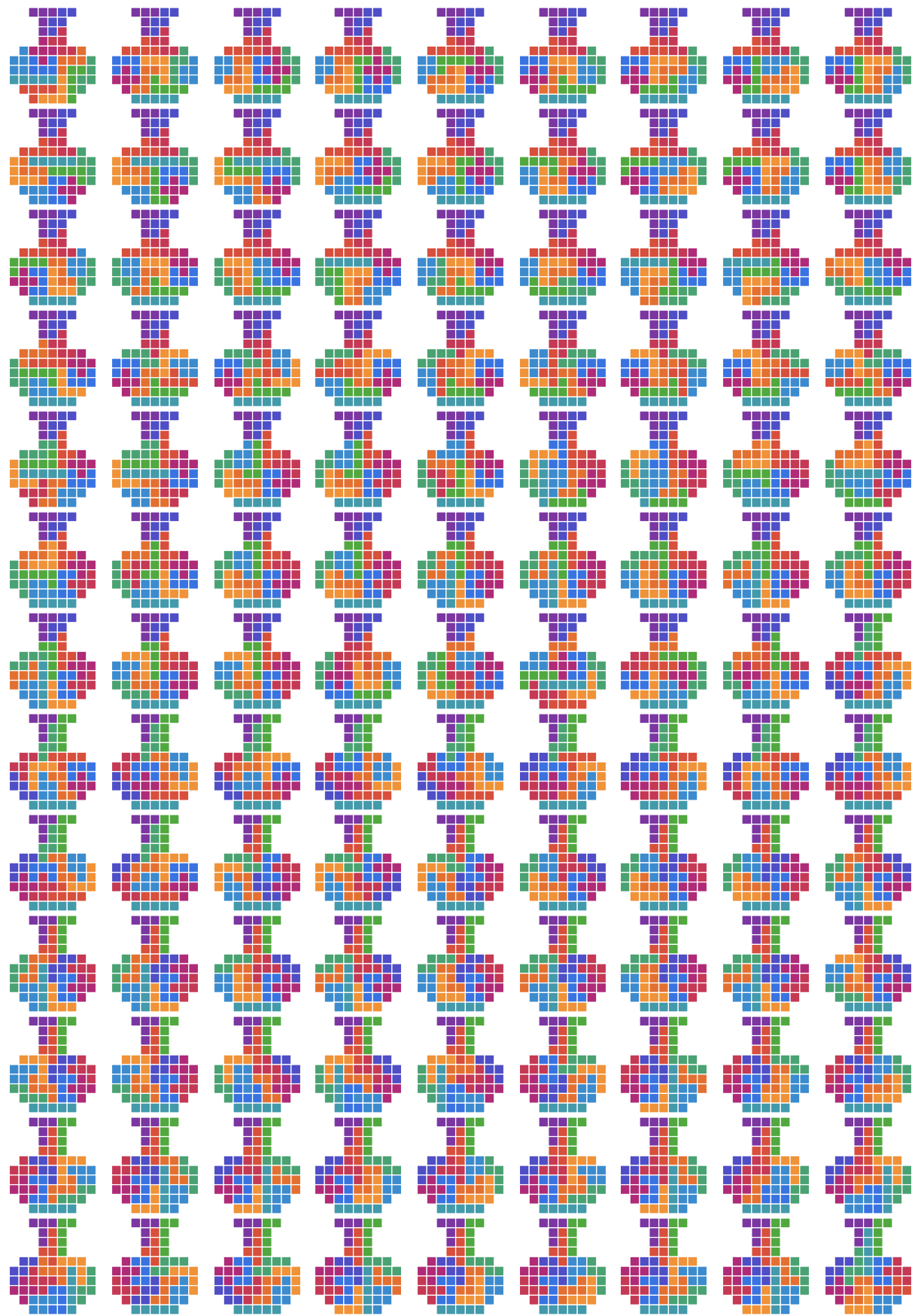
trophy
66 Solutions

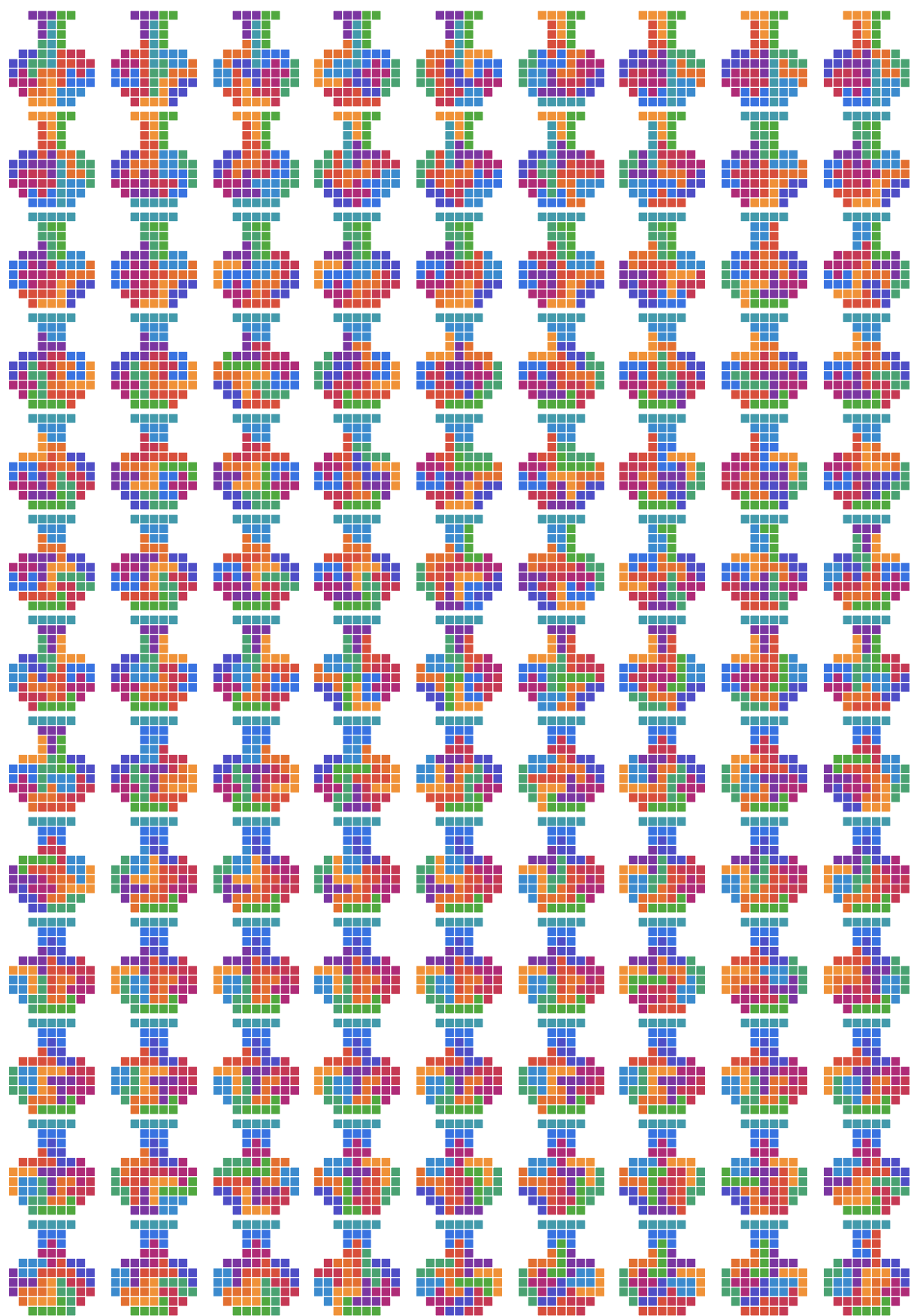


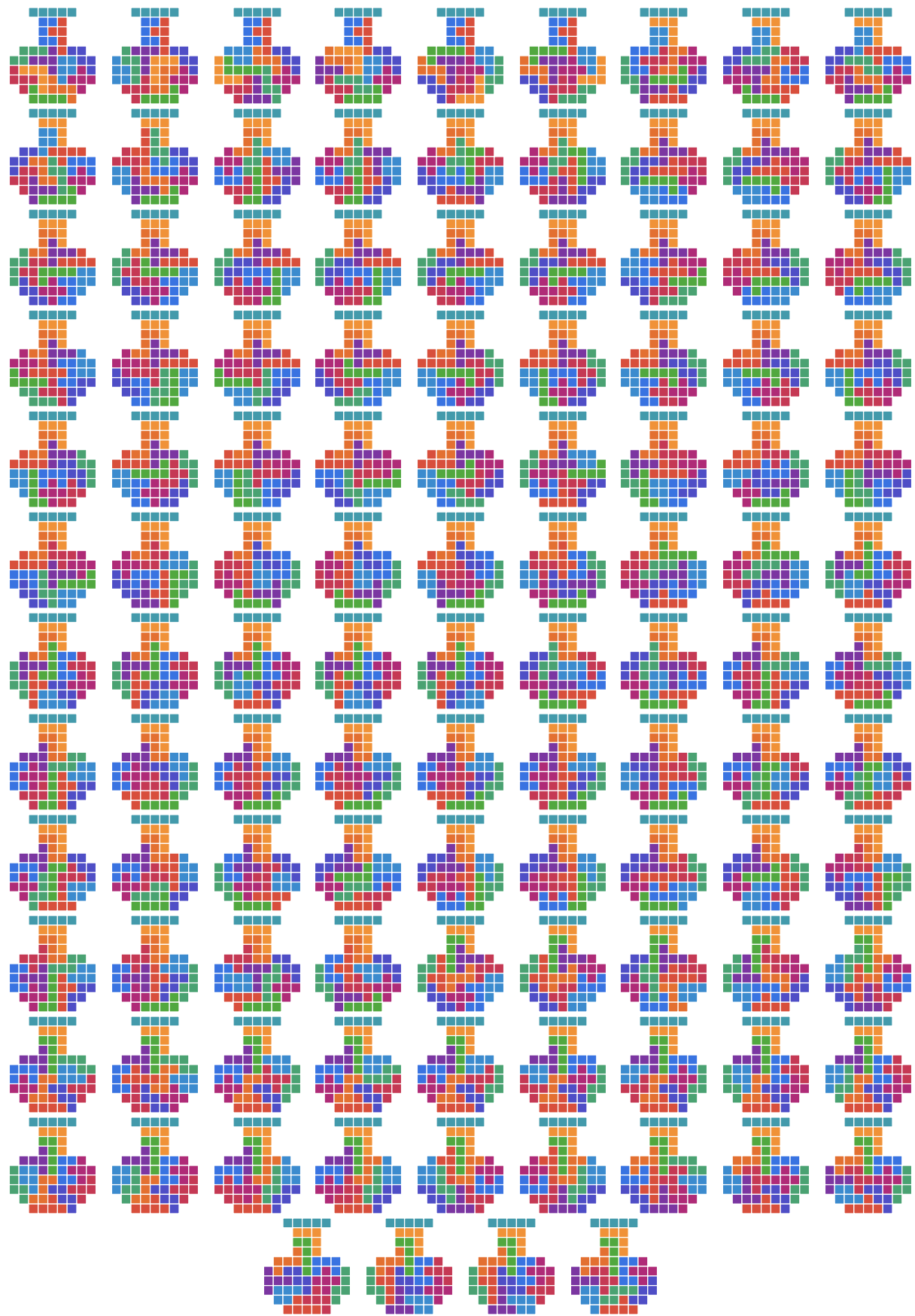


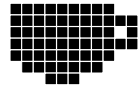
jar
445
Solutions



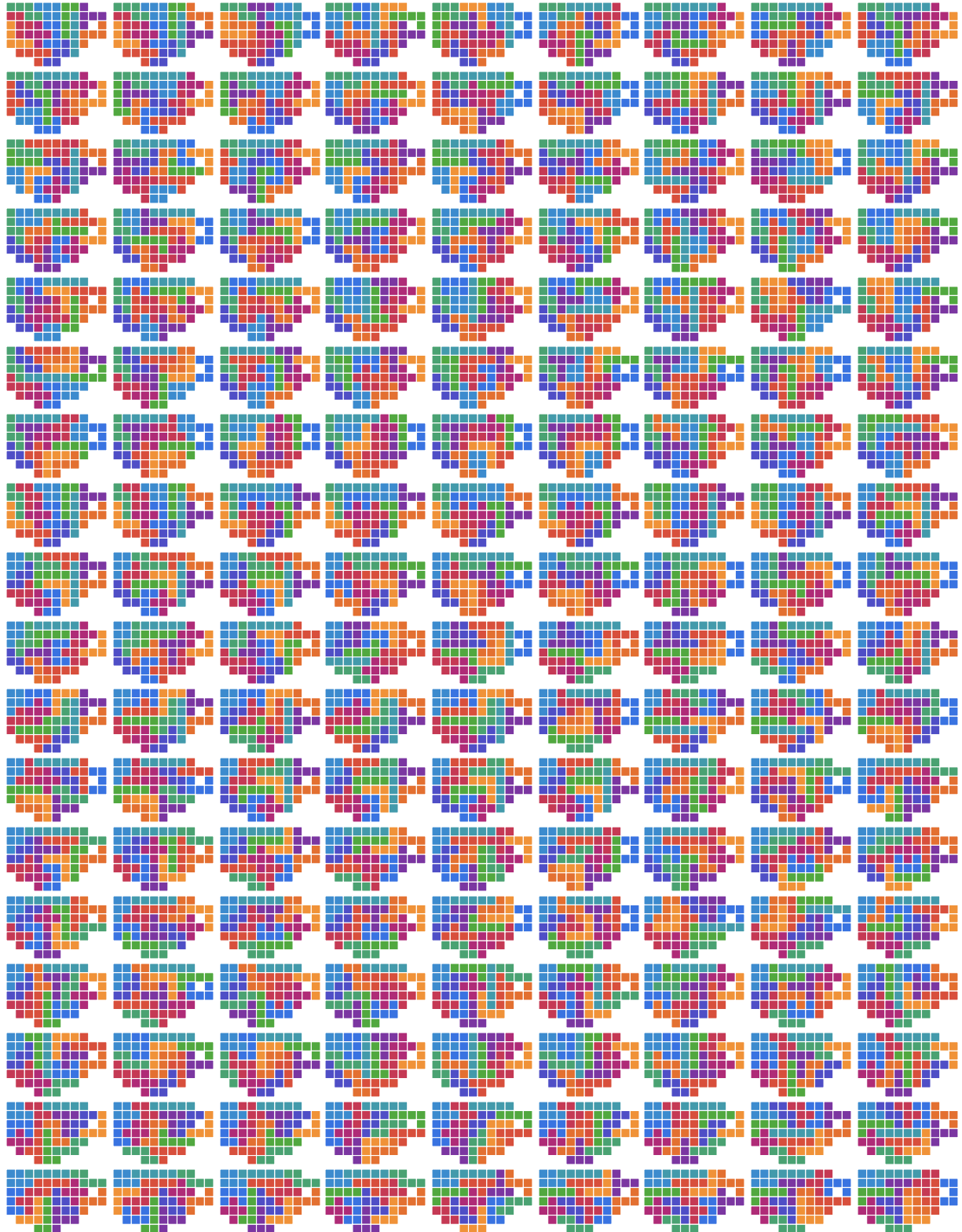


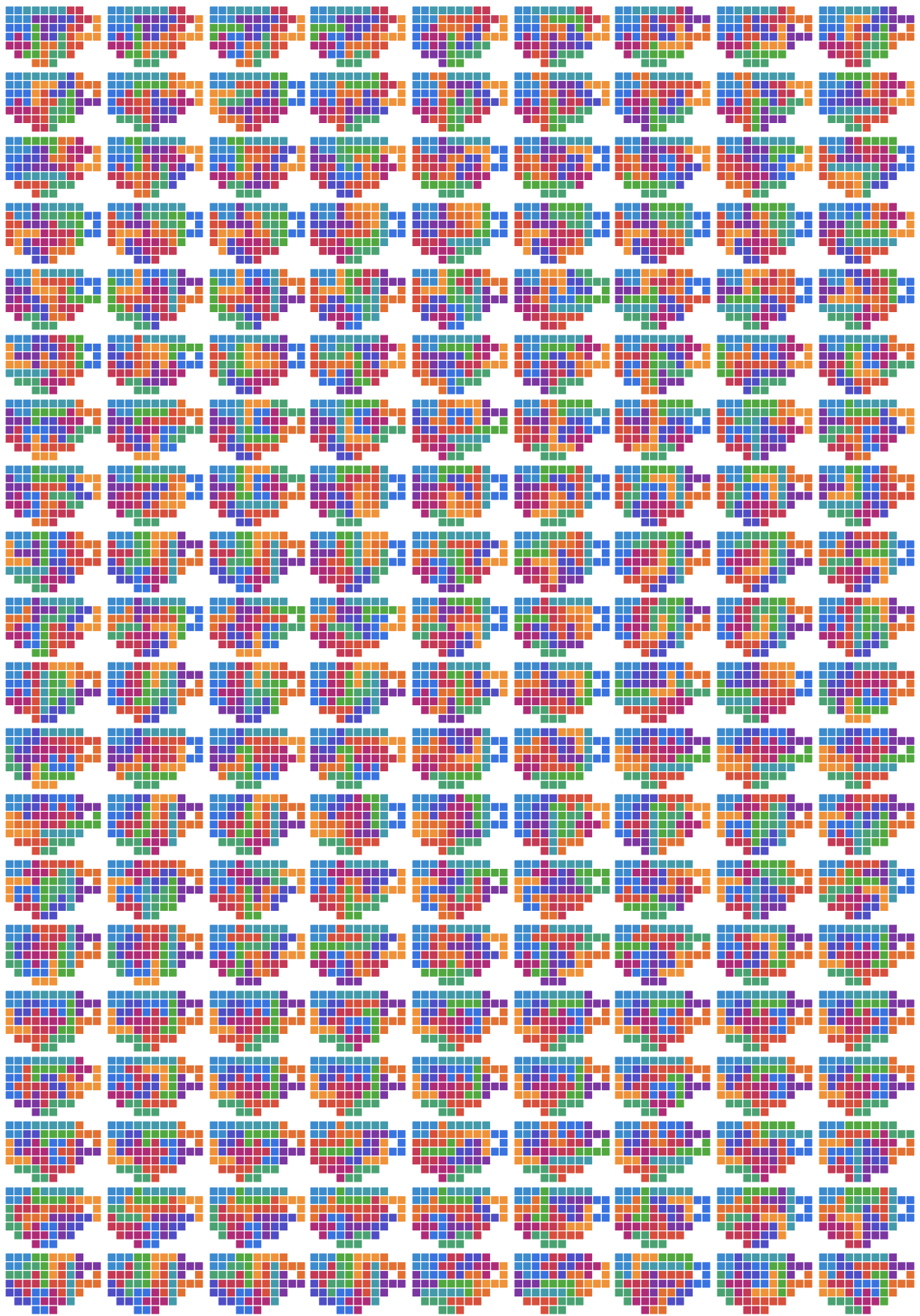


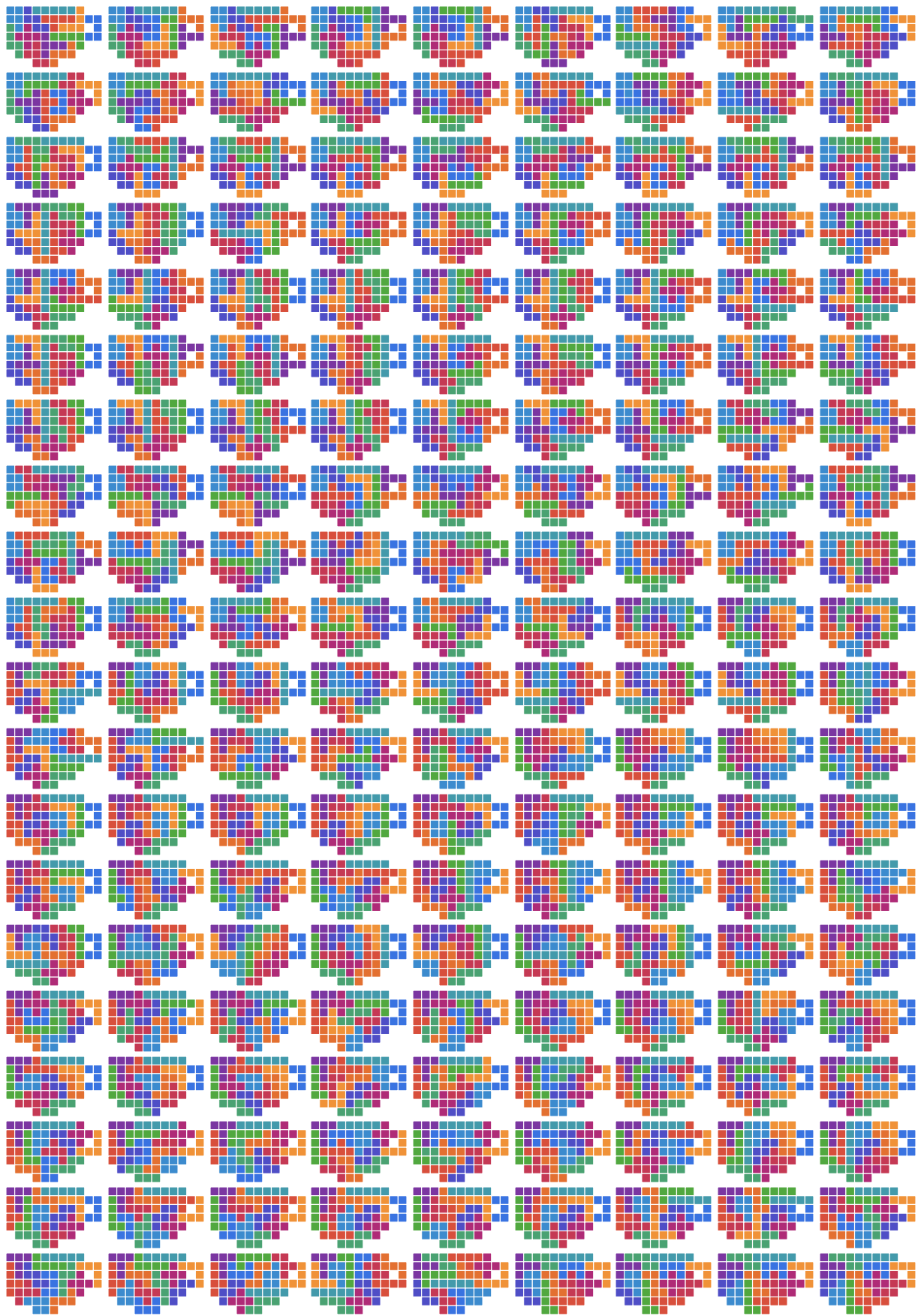


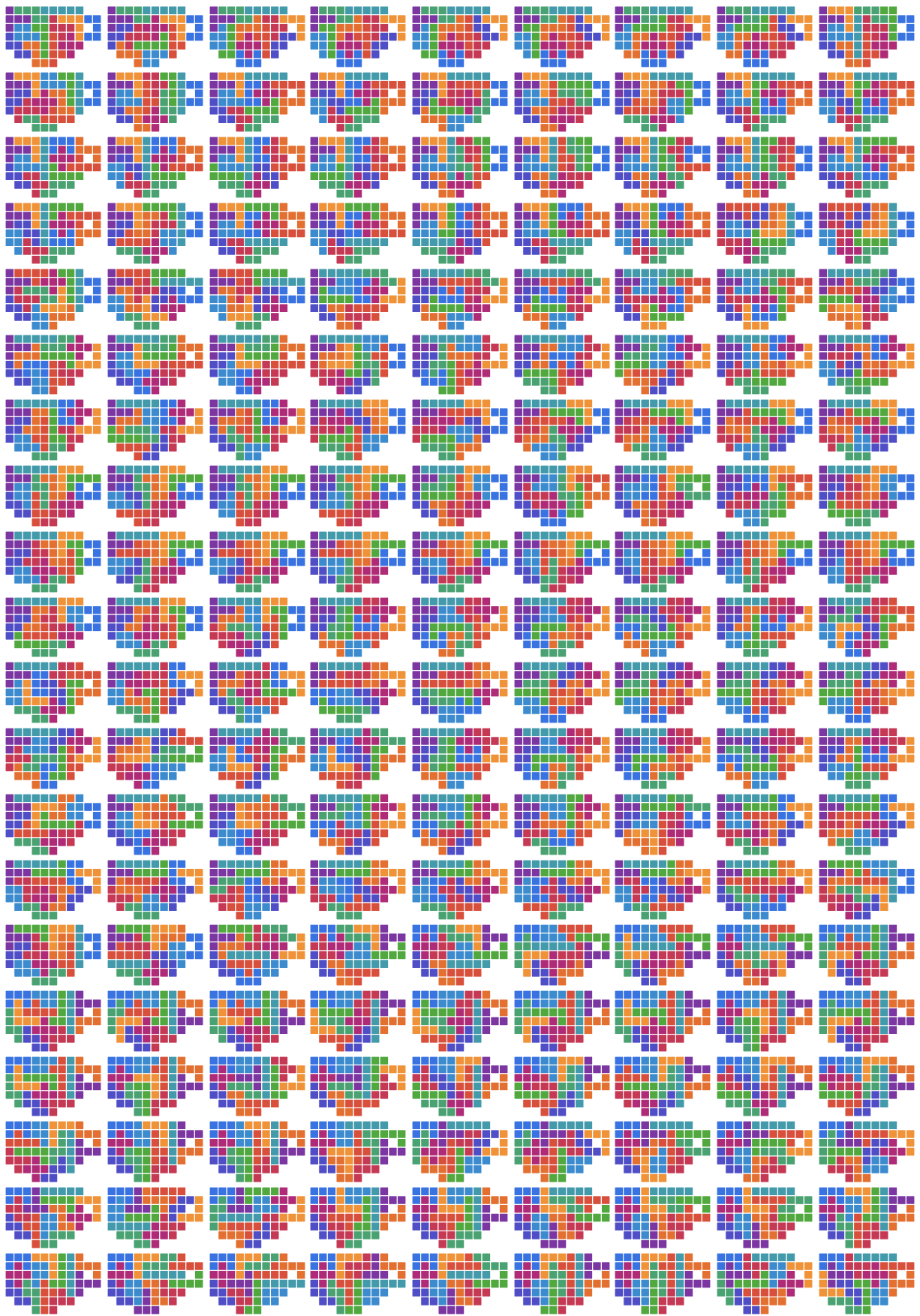


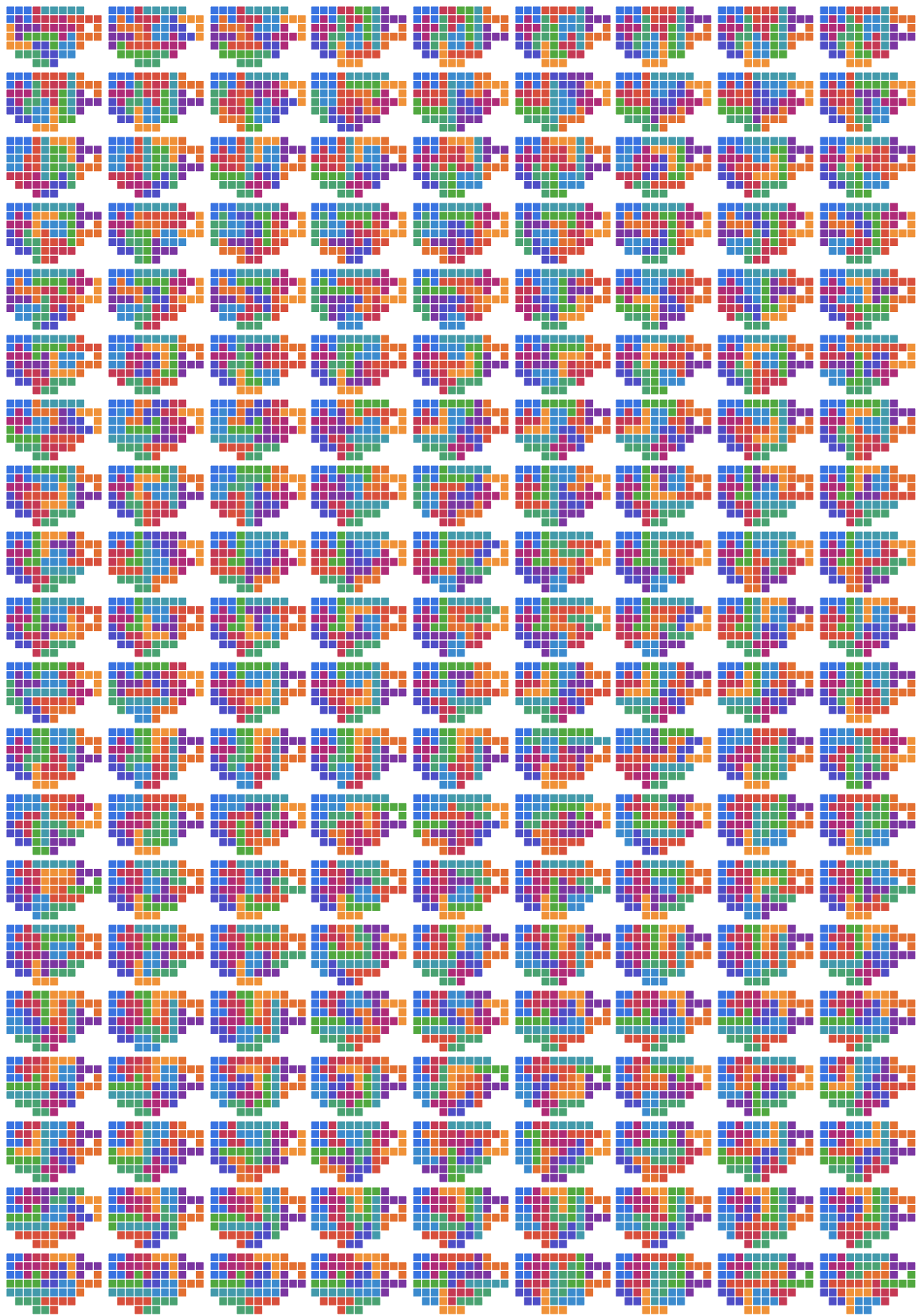
teacup
5,220 Solutions

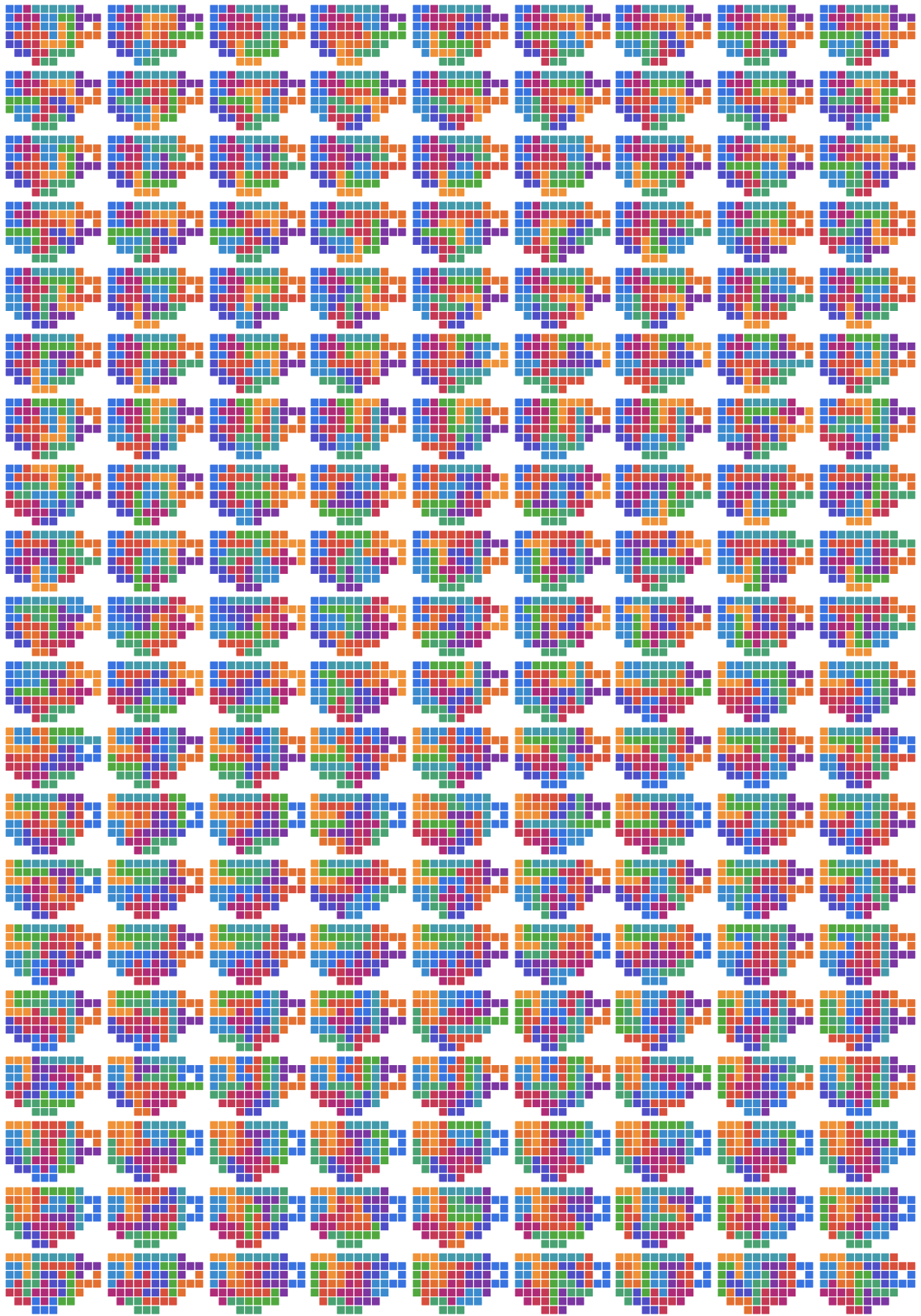


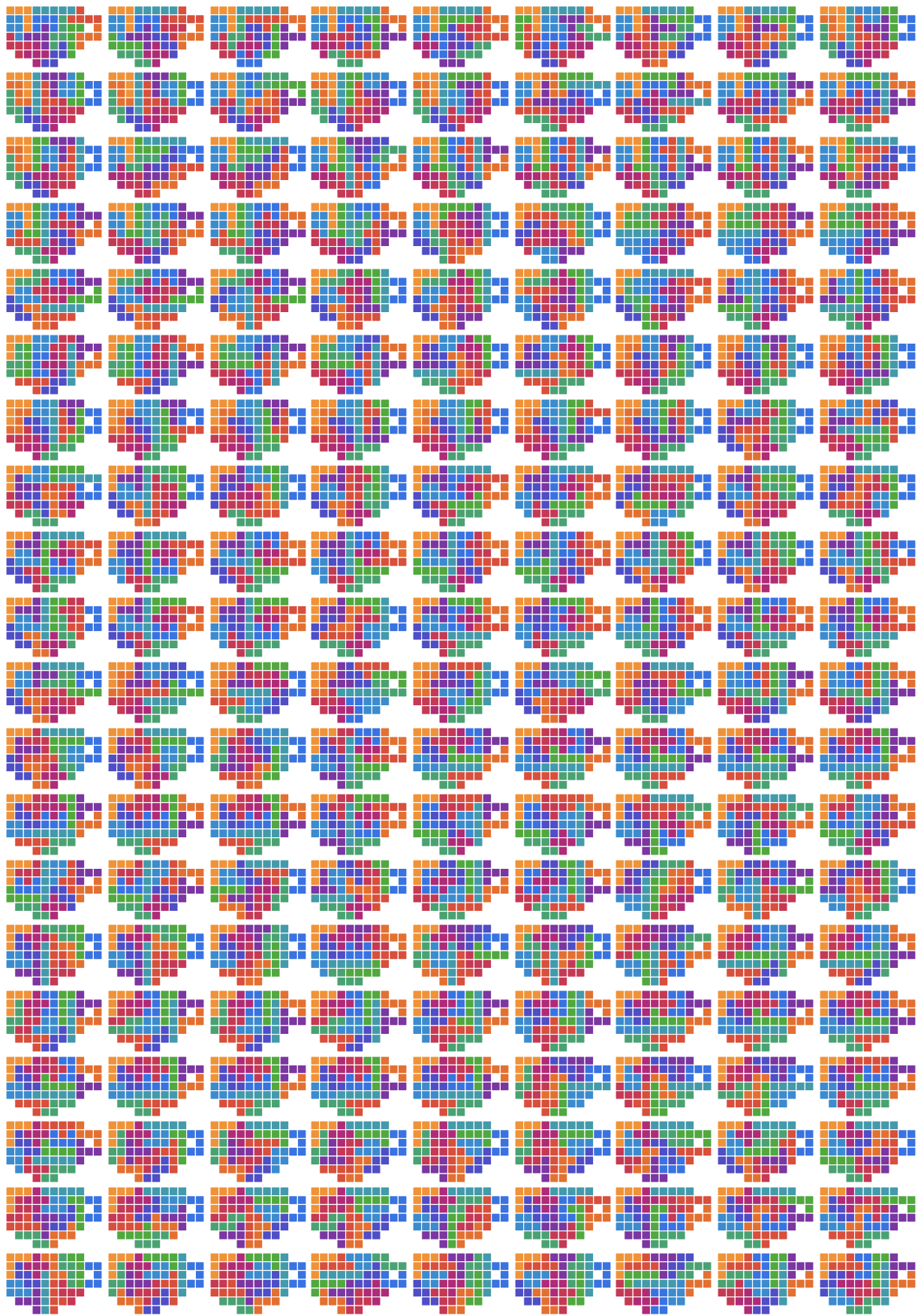


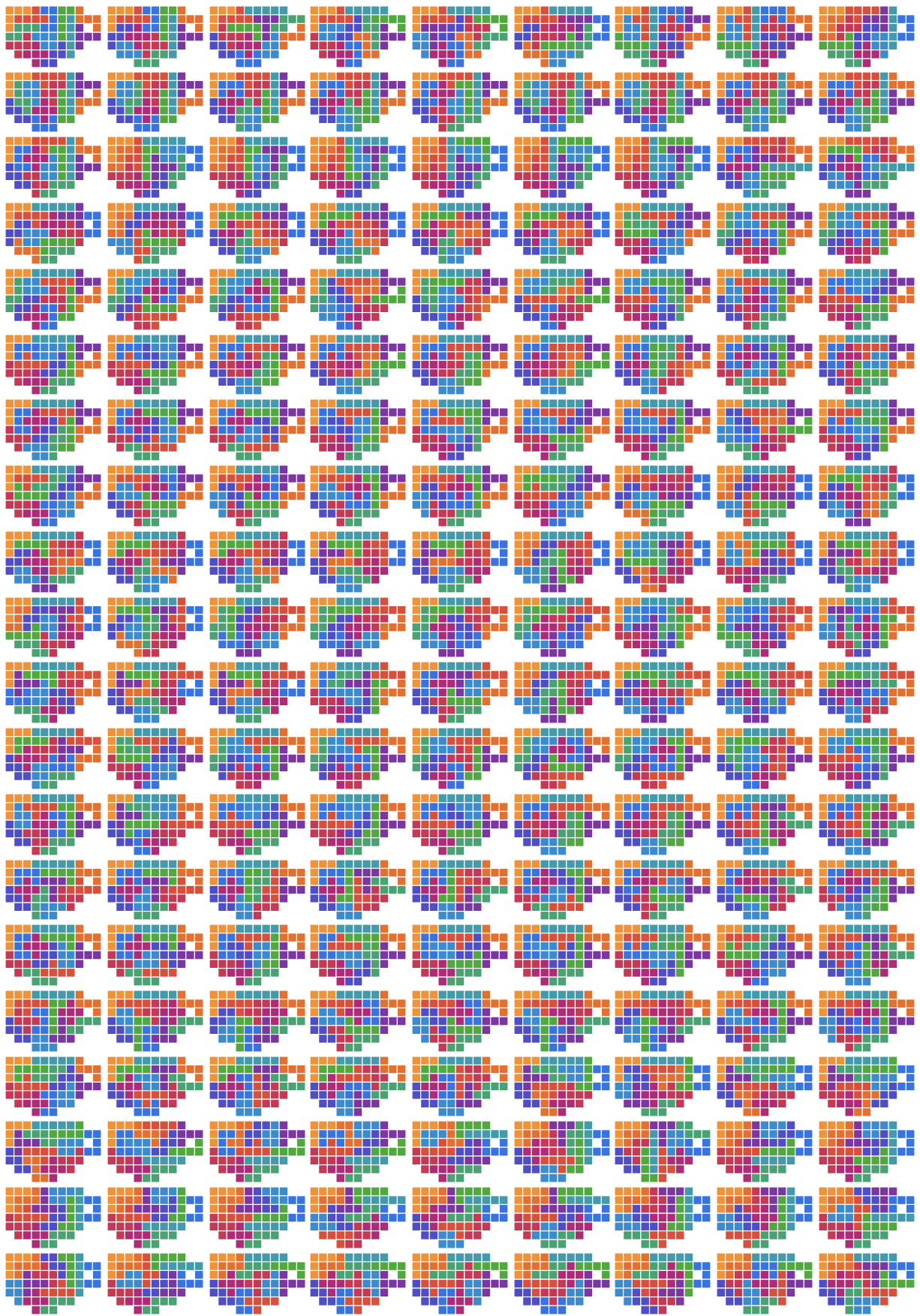


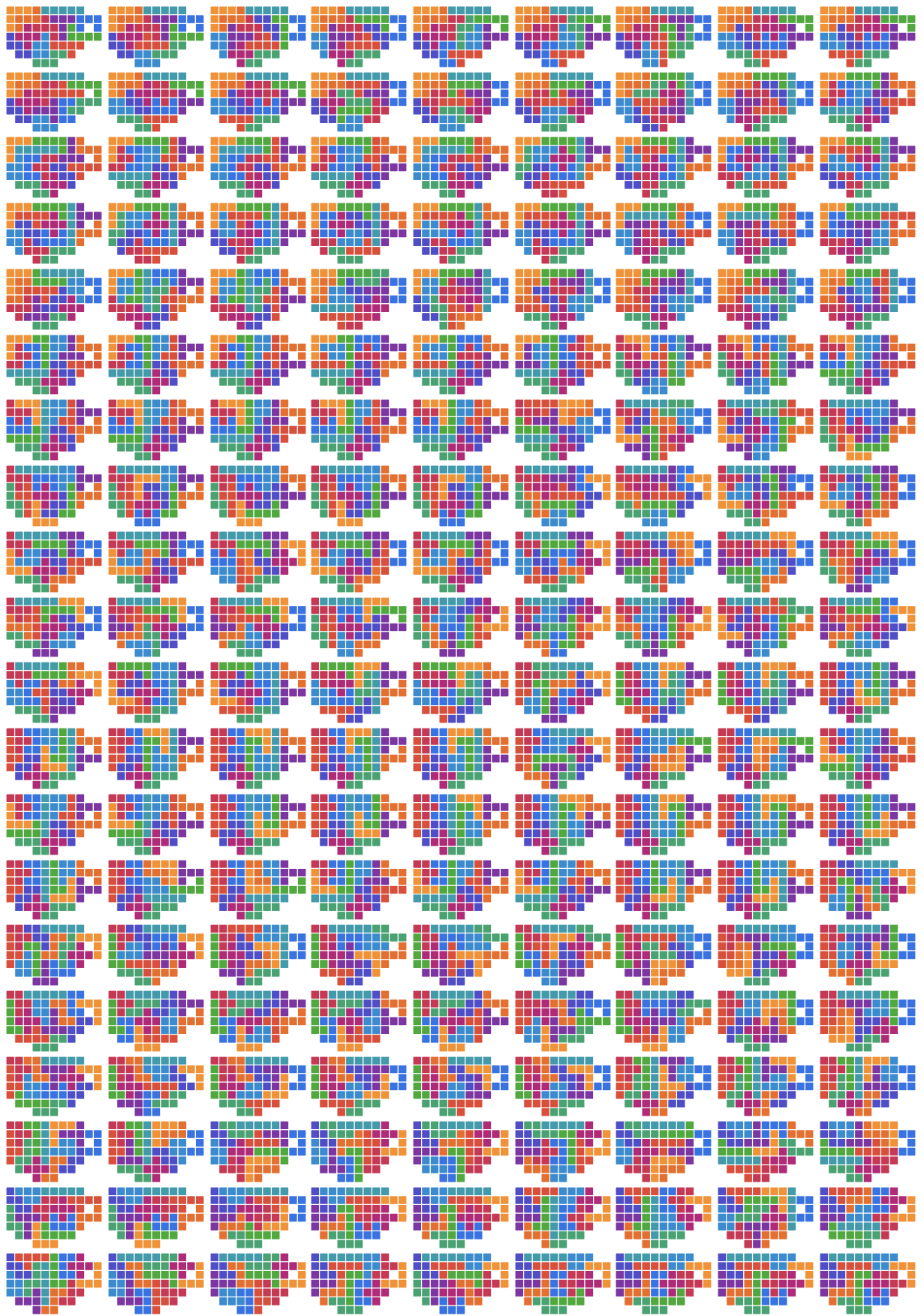


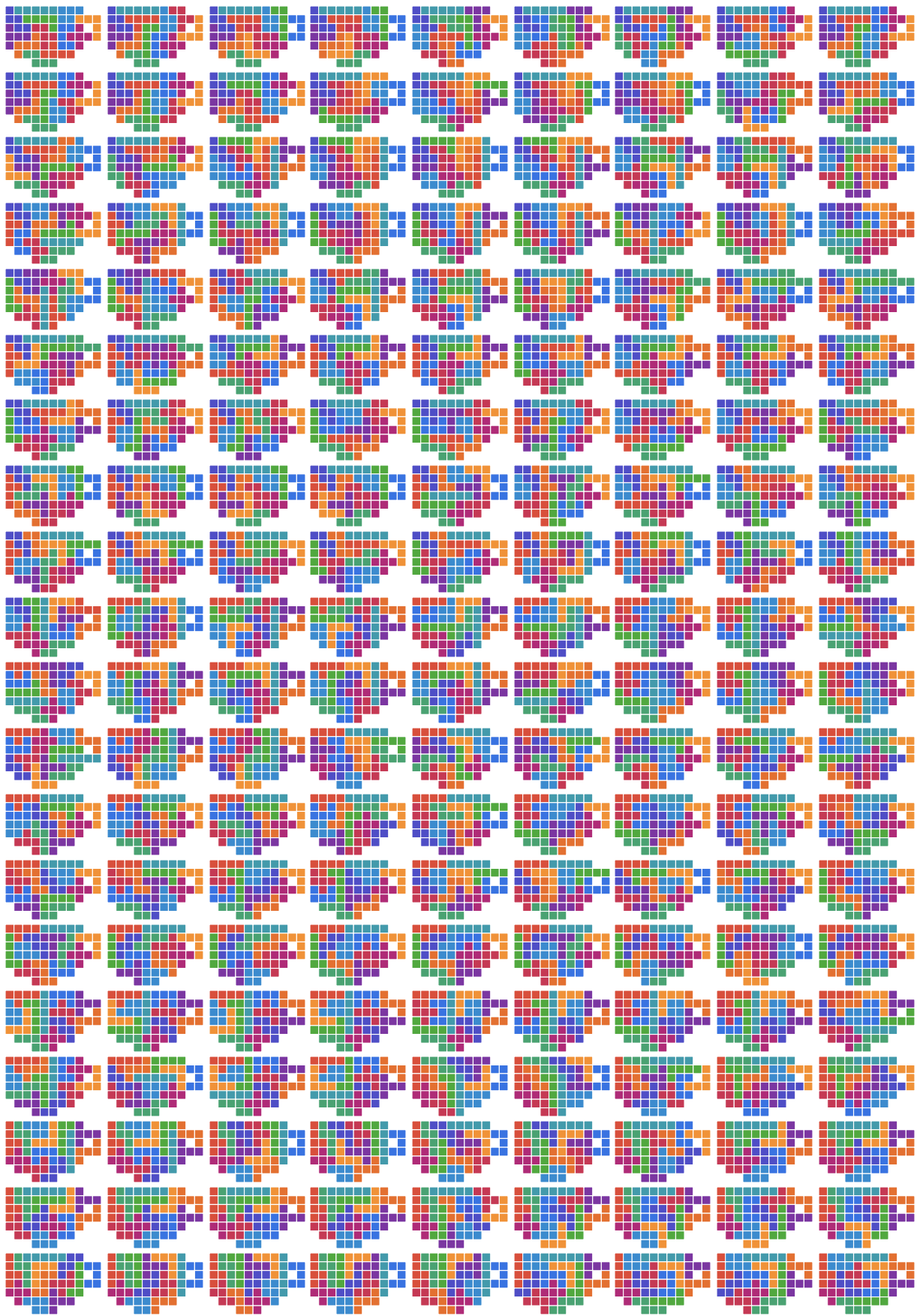


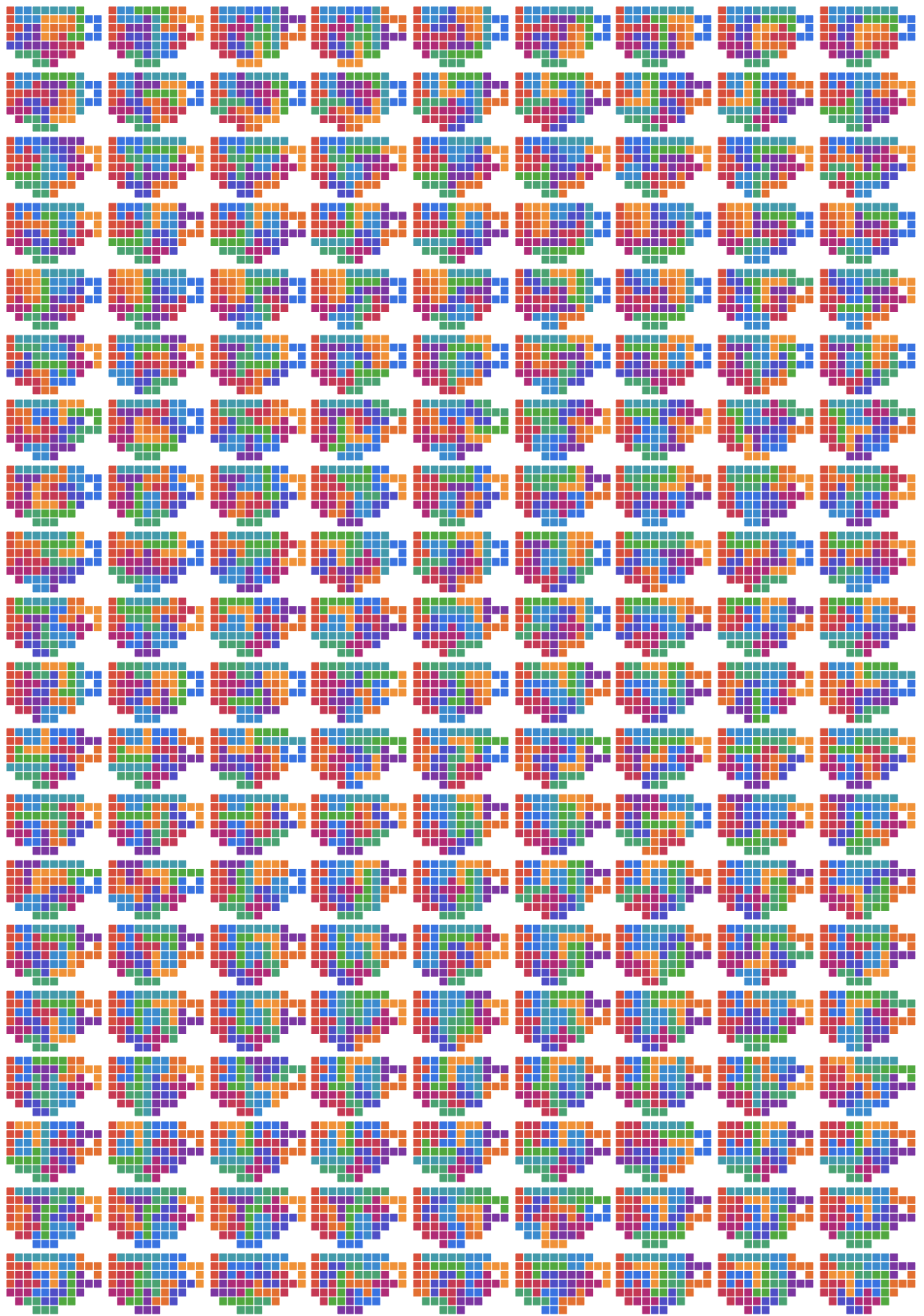


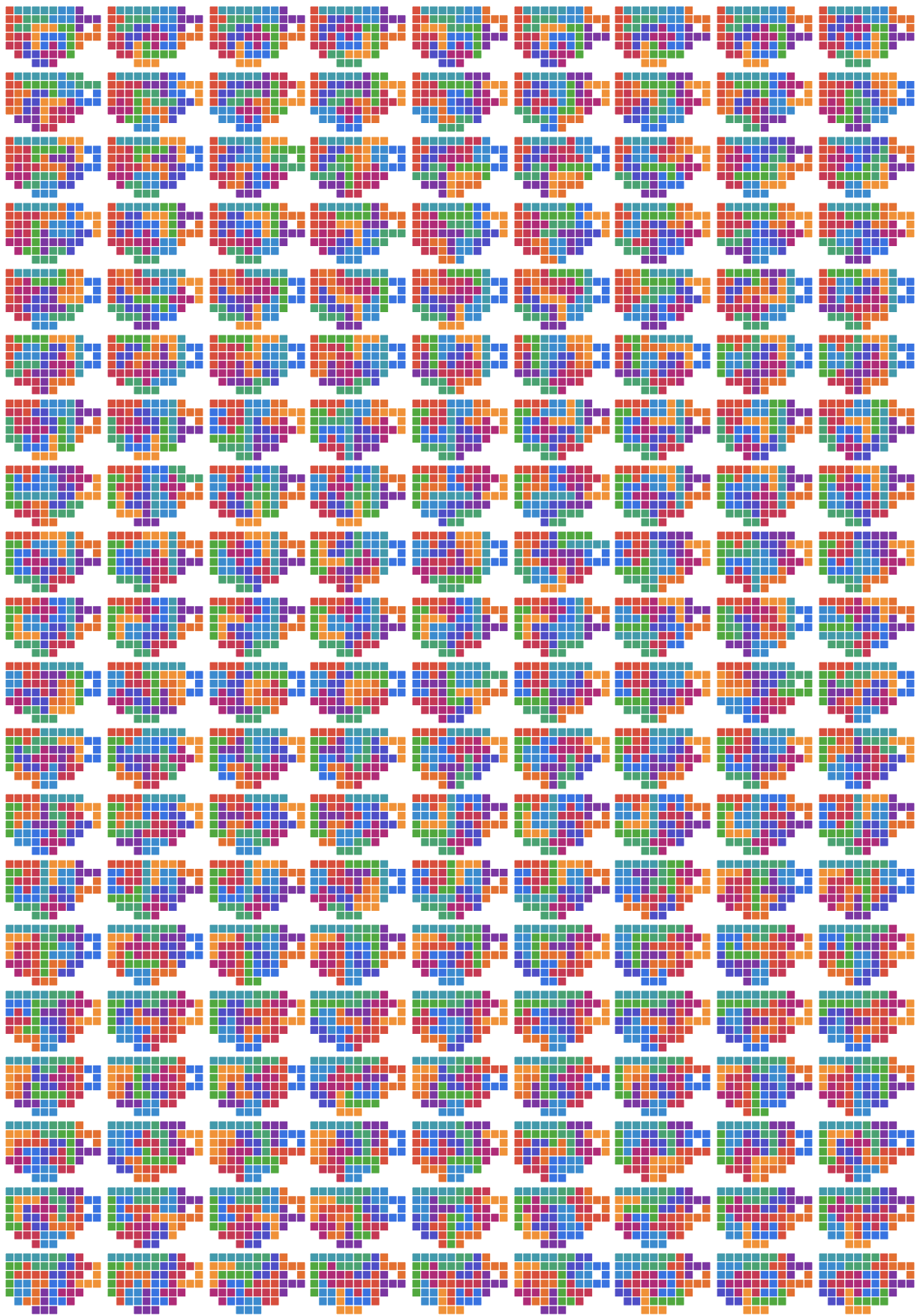


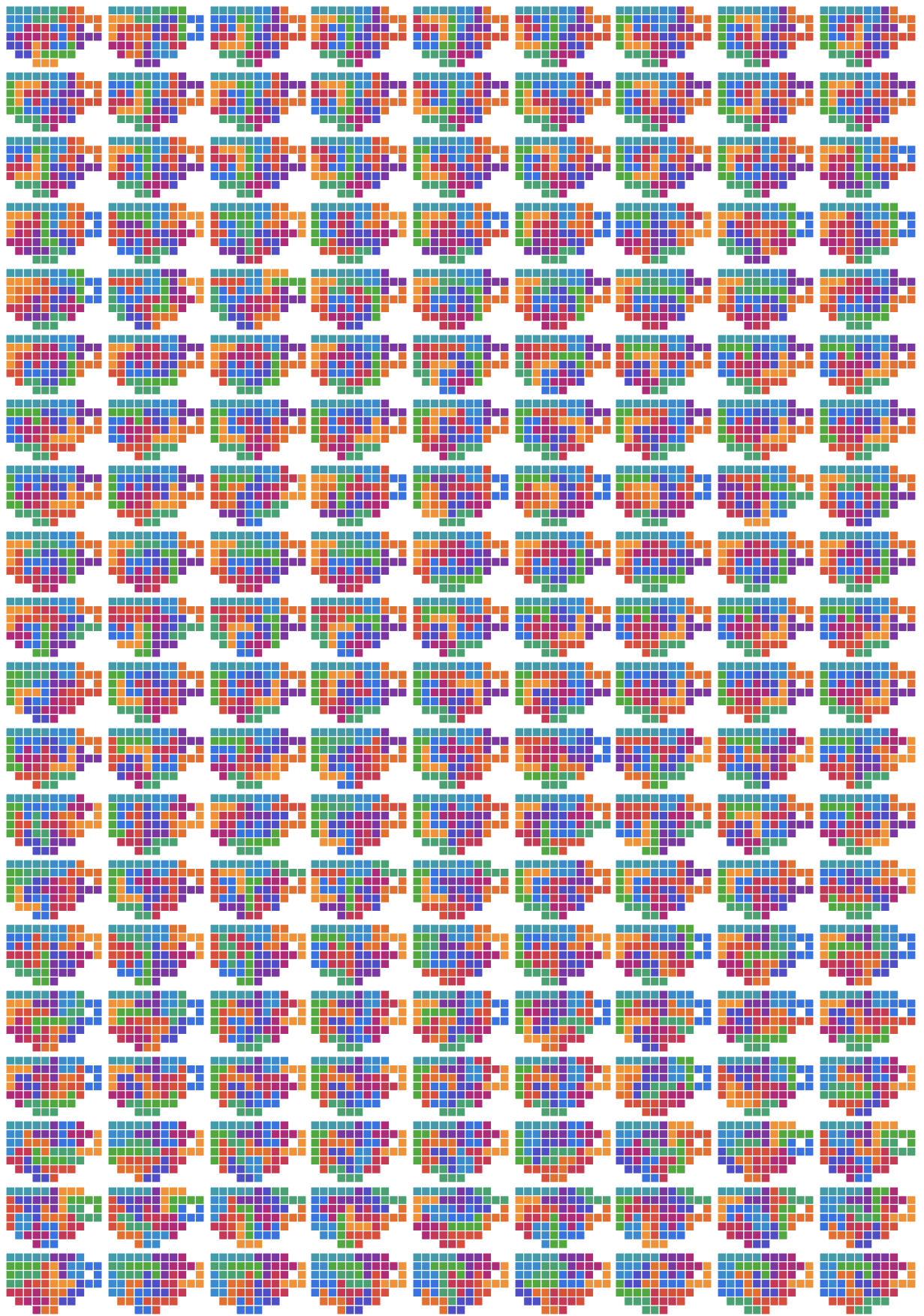


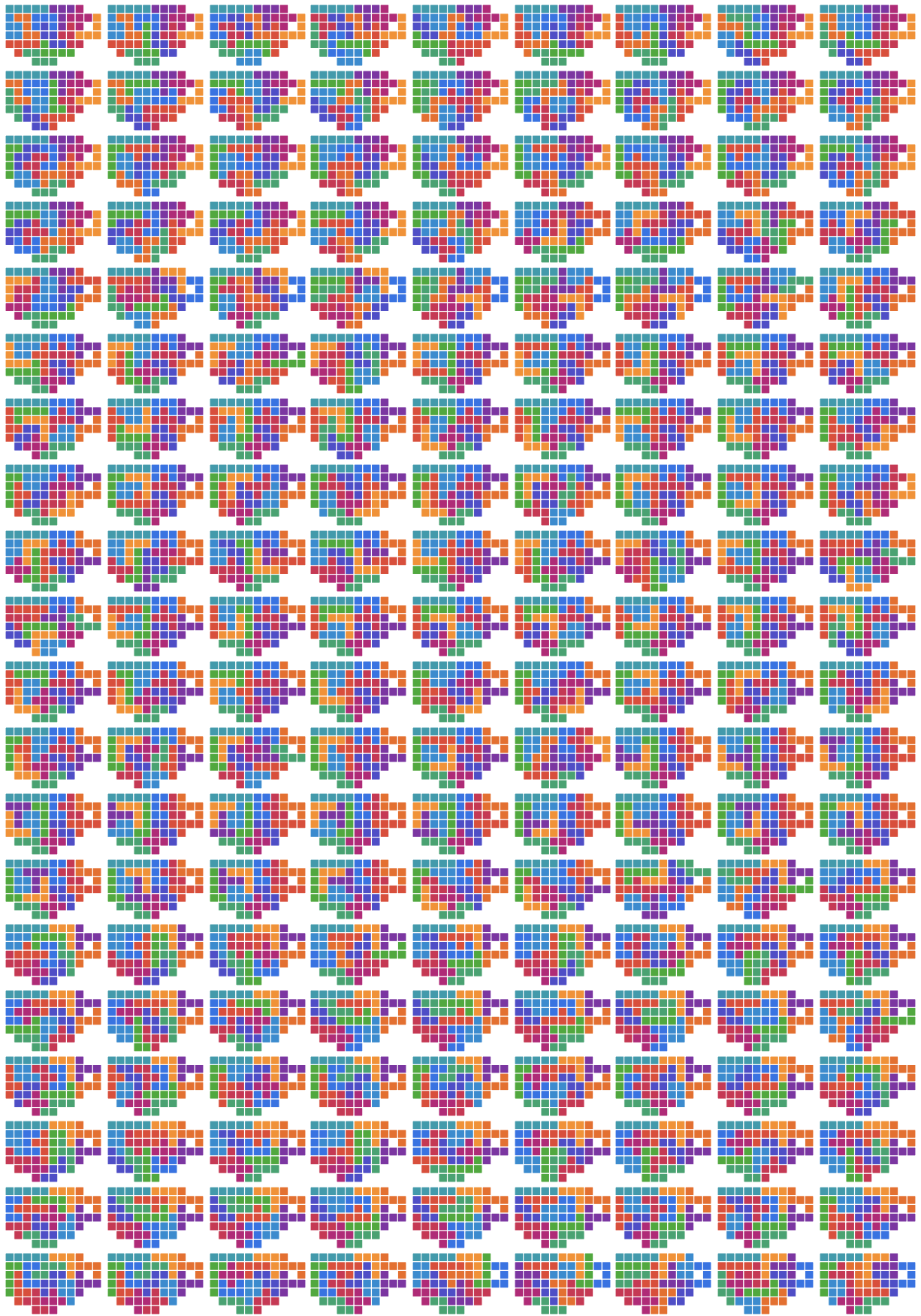




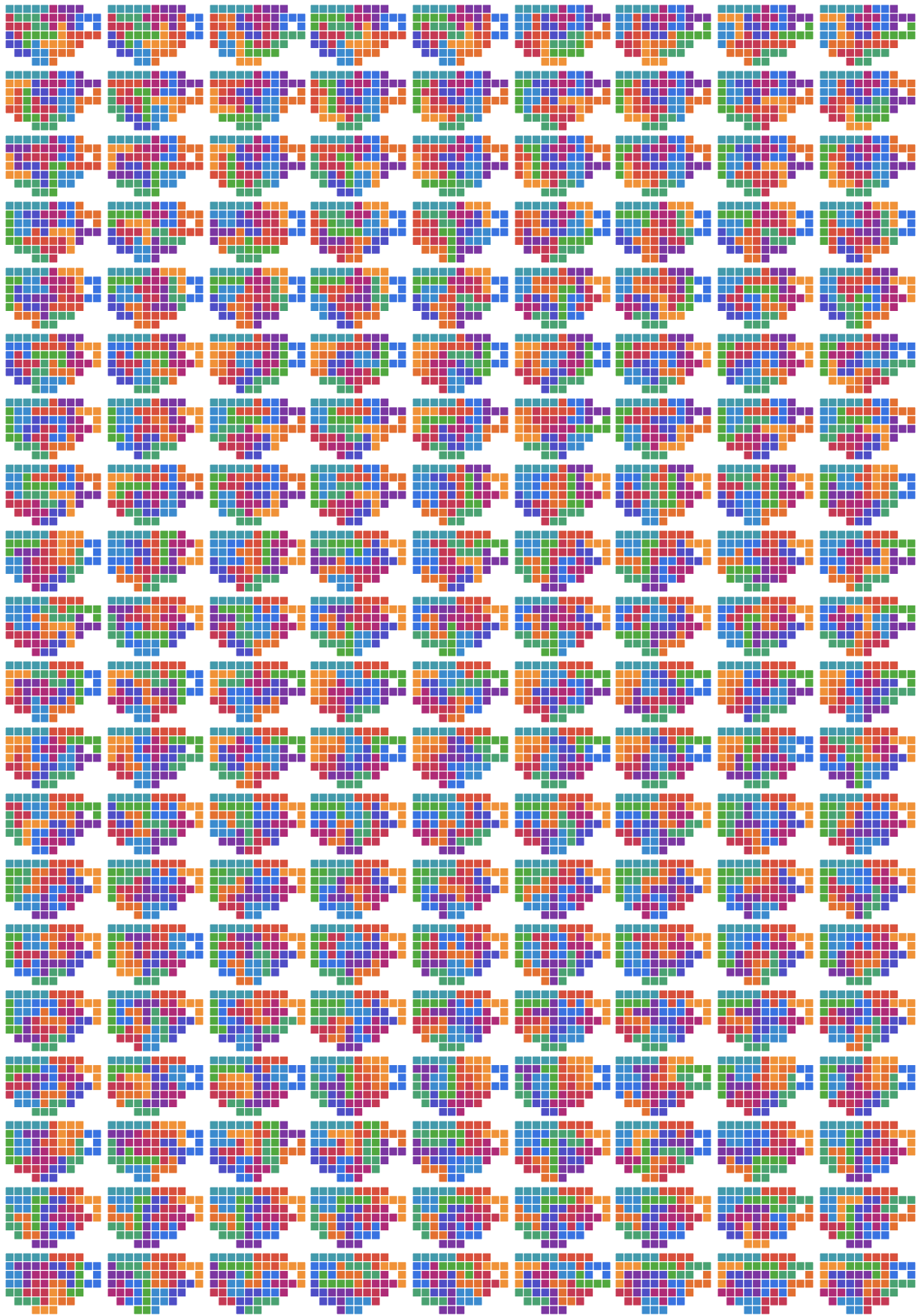


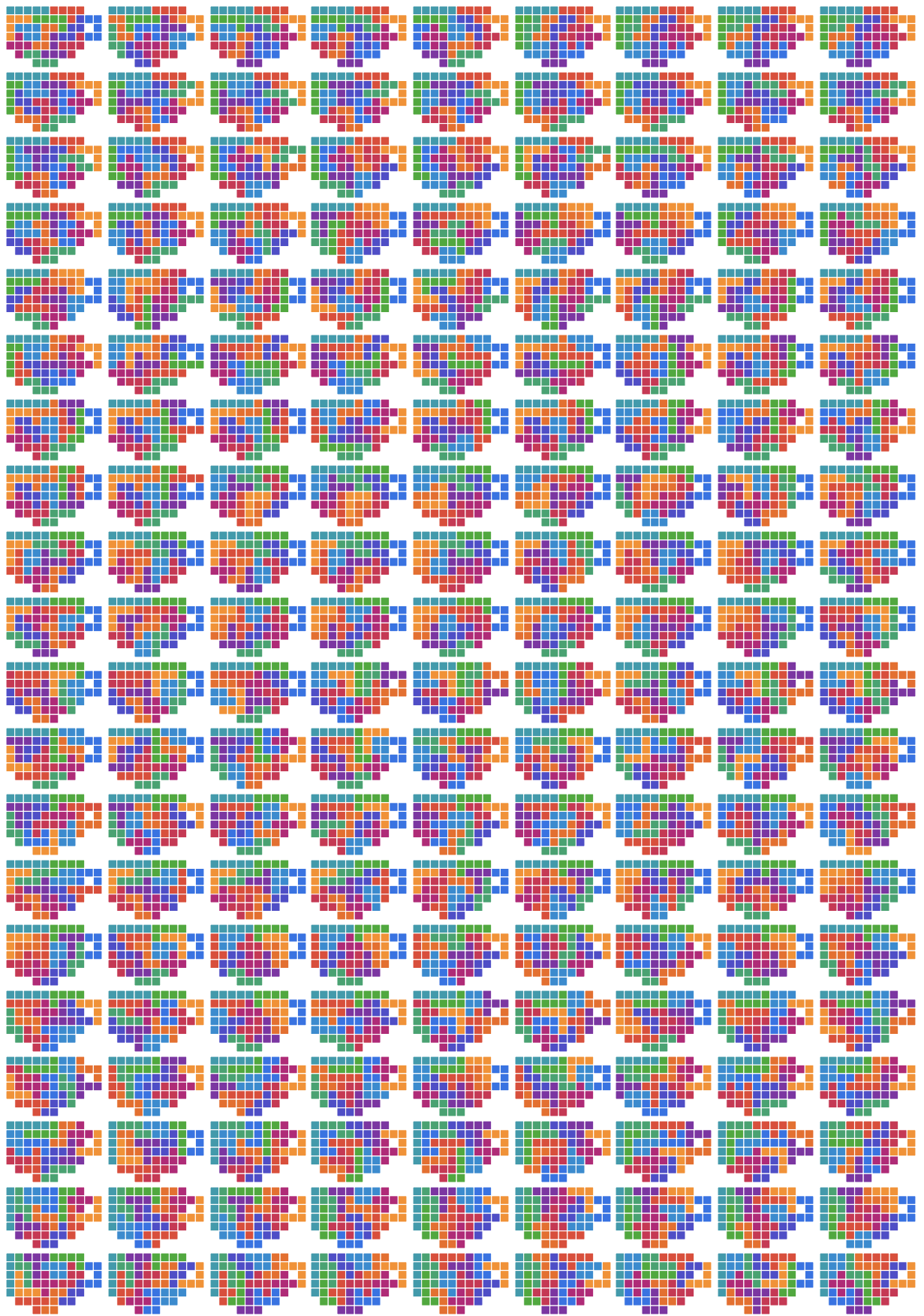


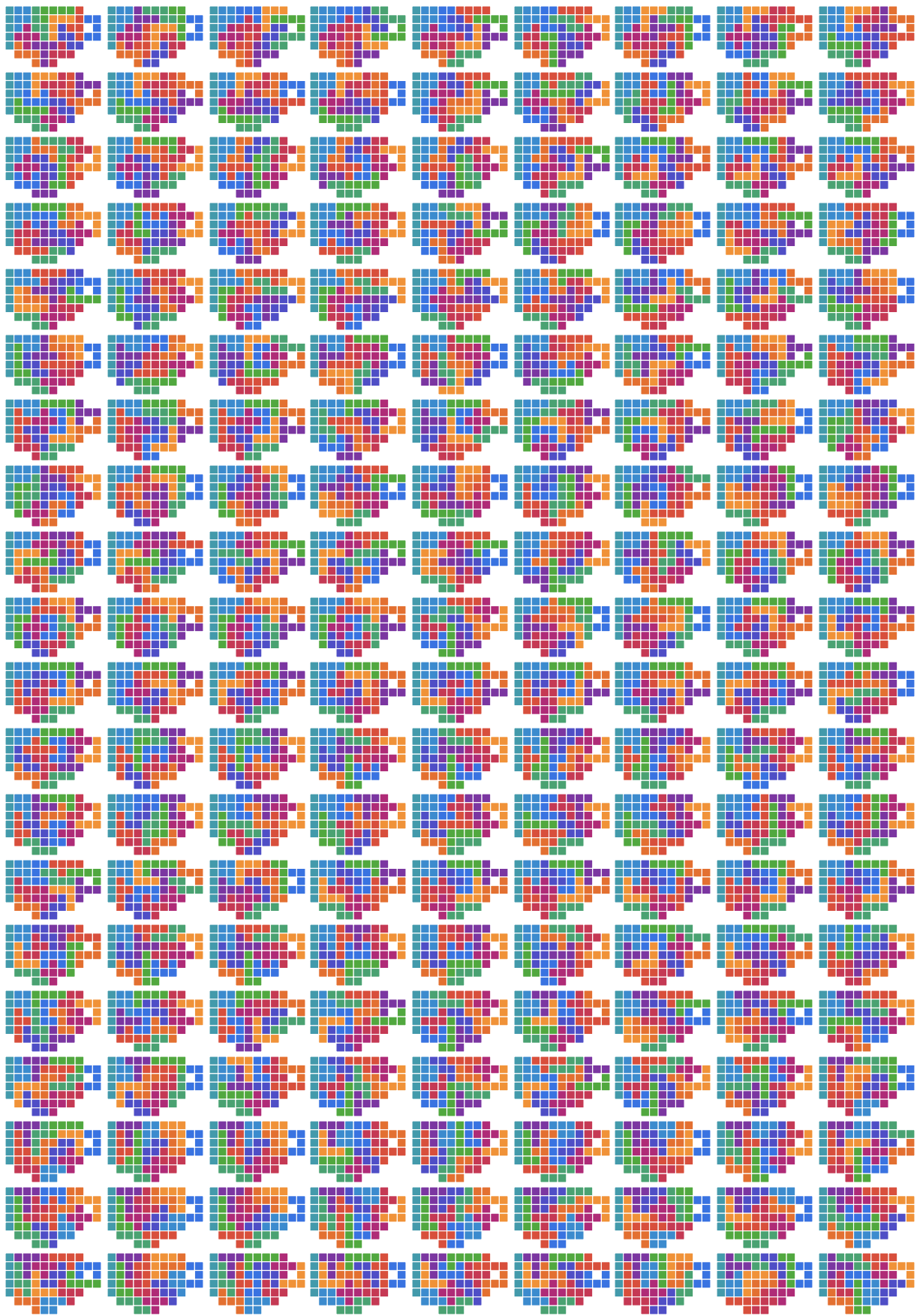


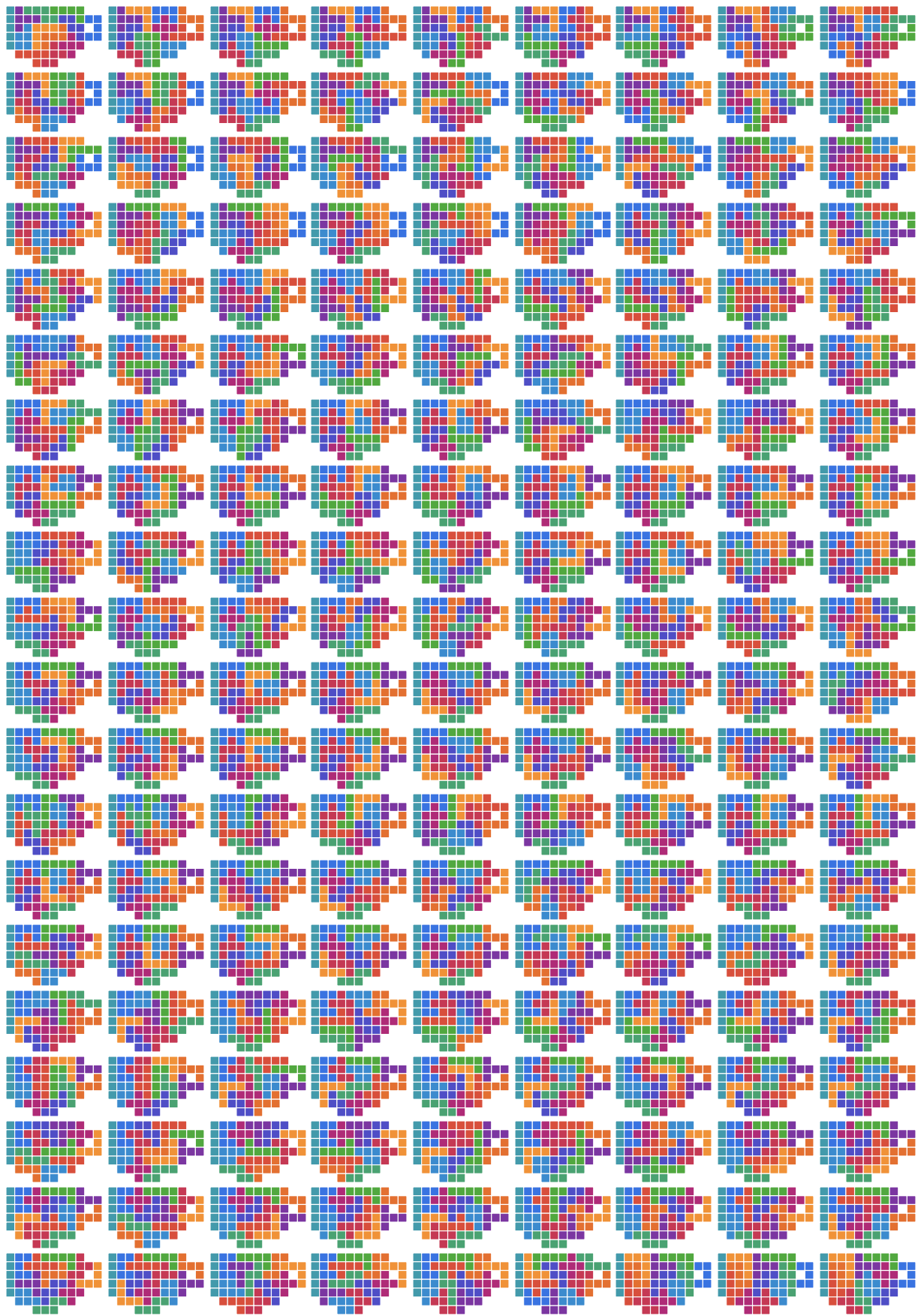


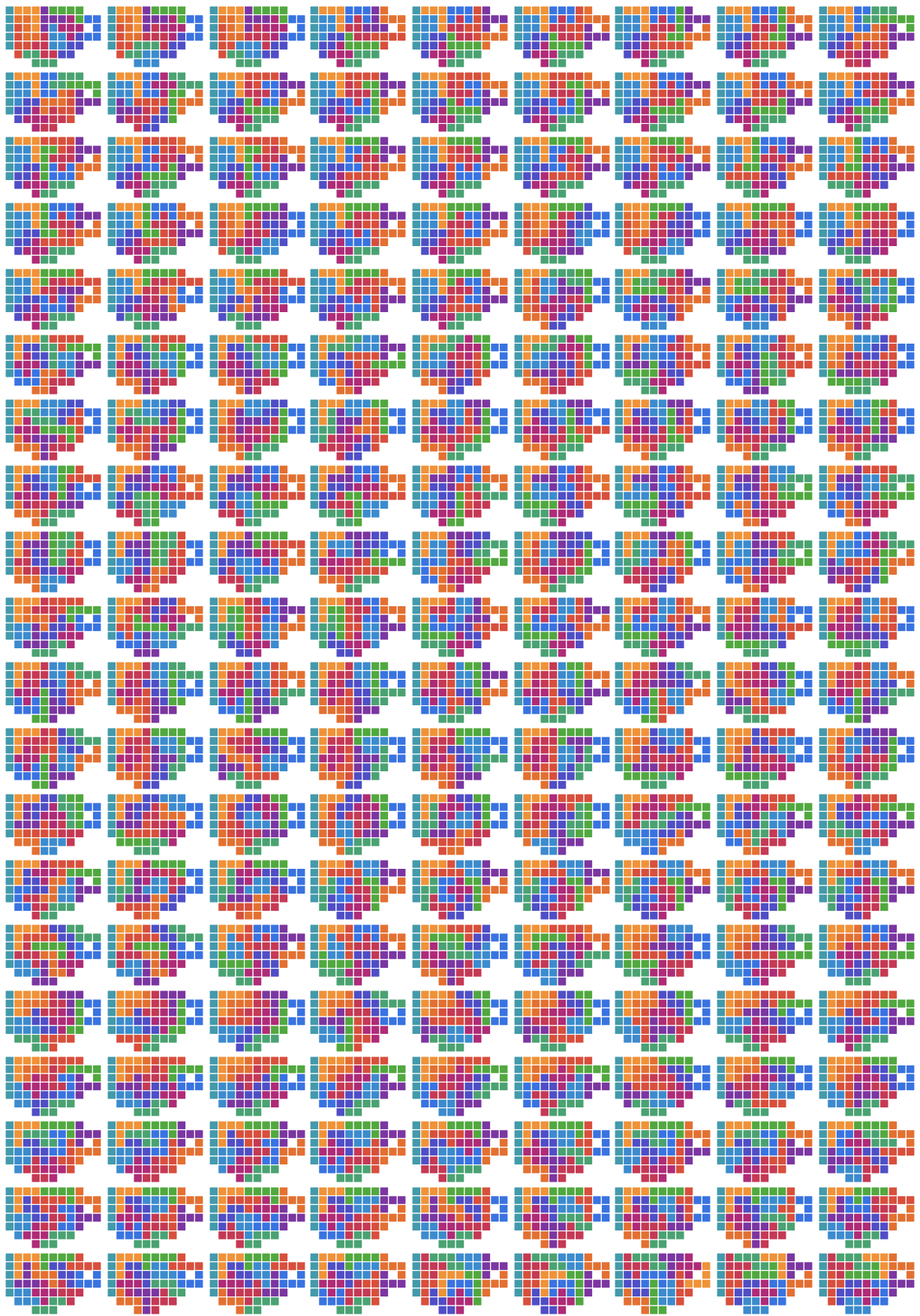


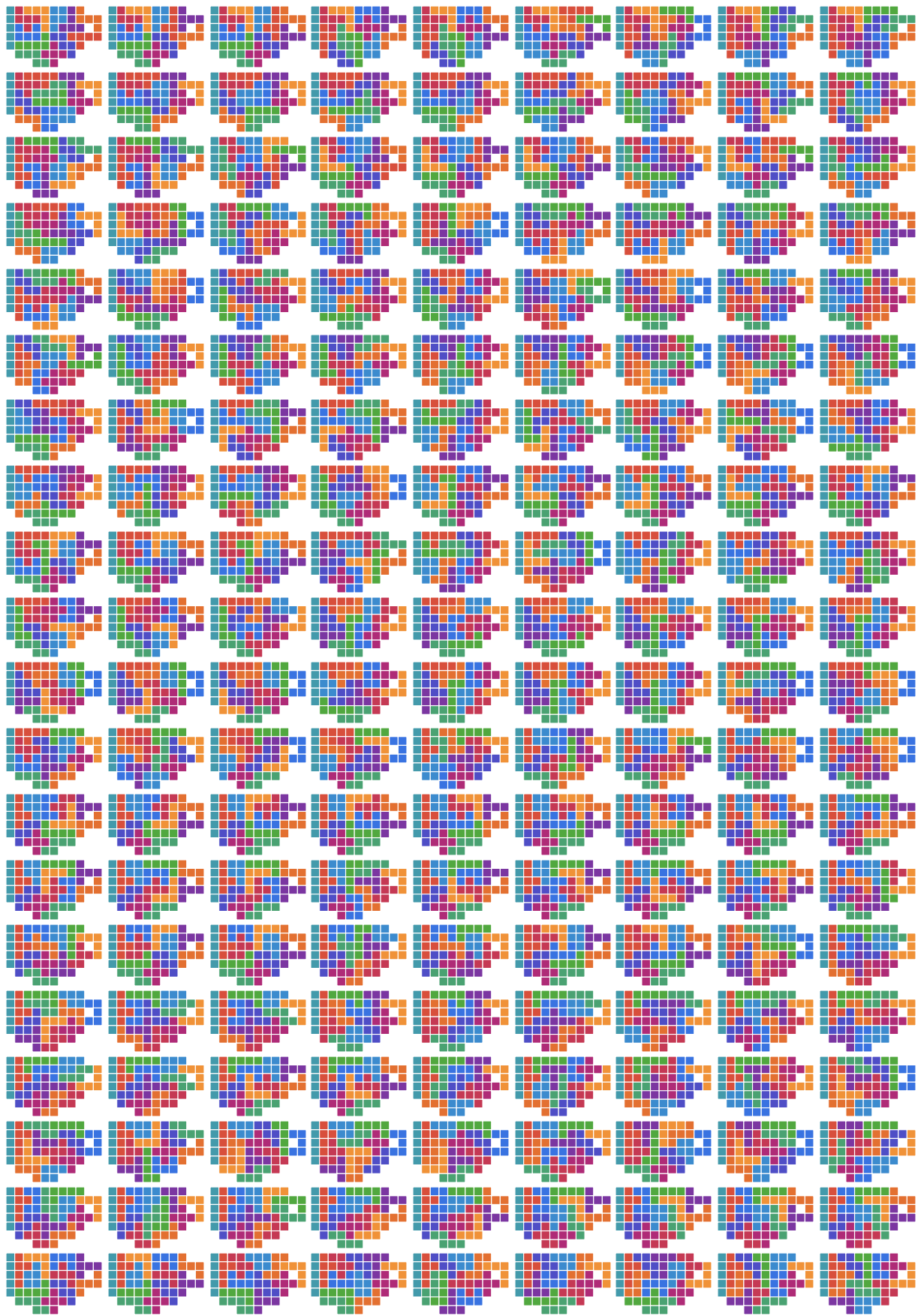


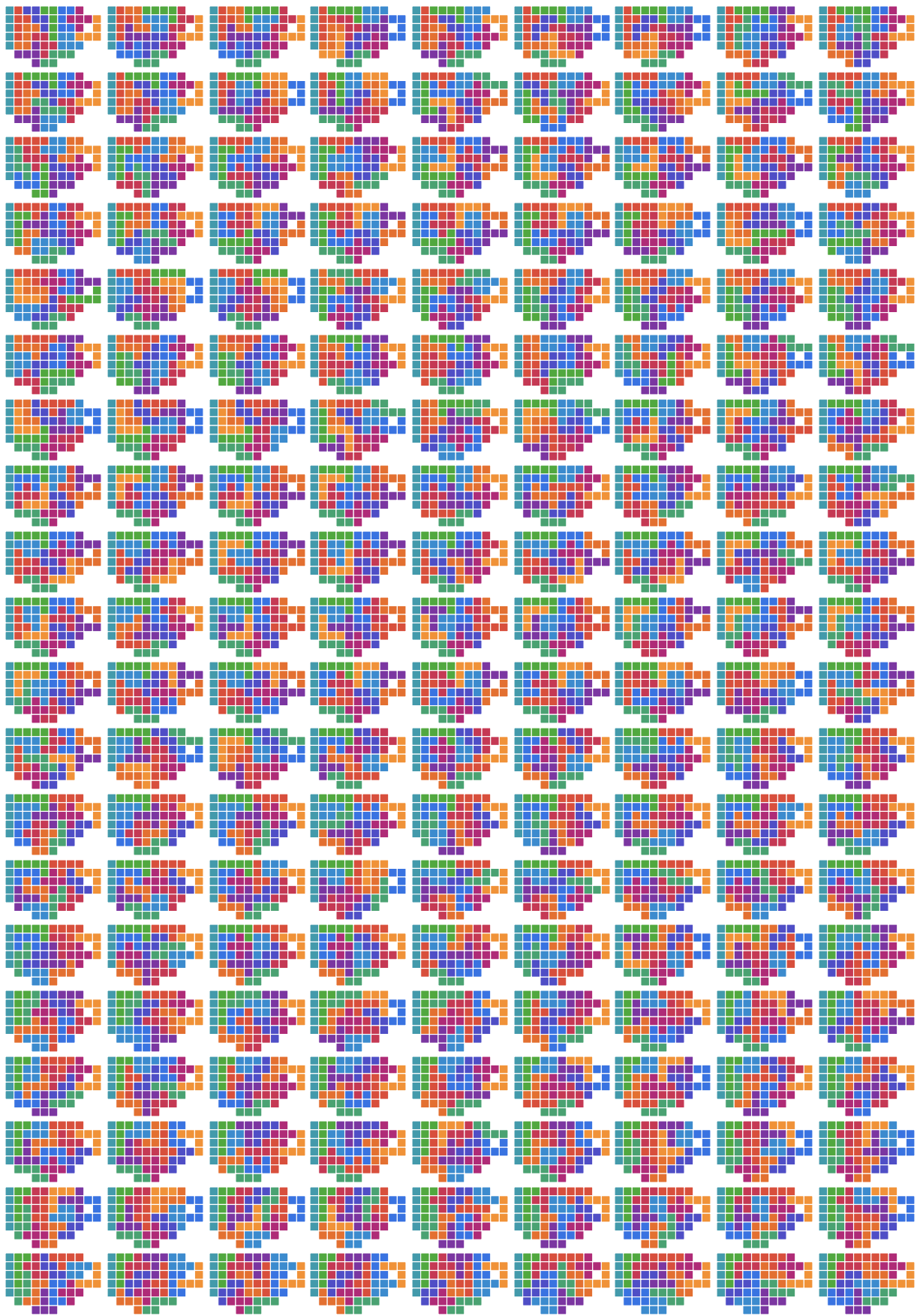


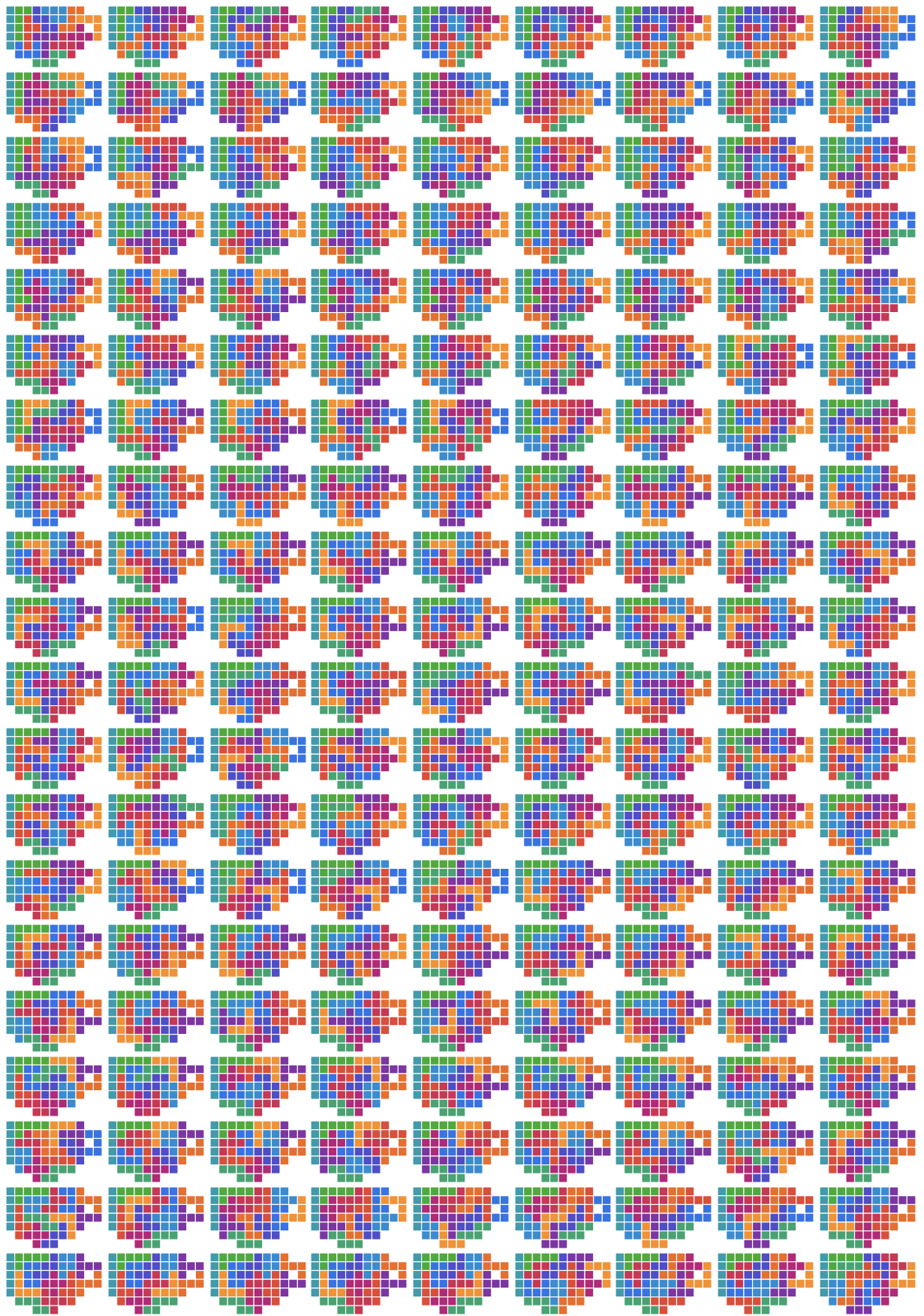


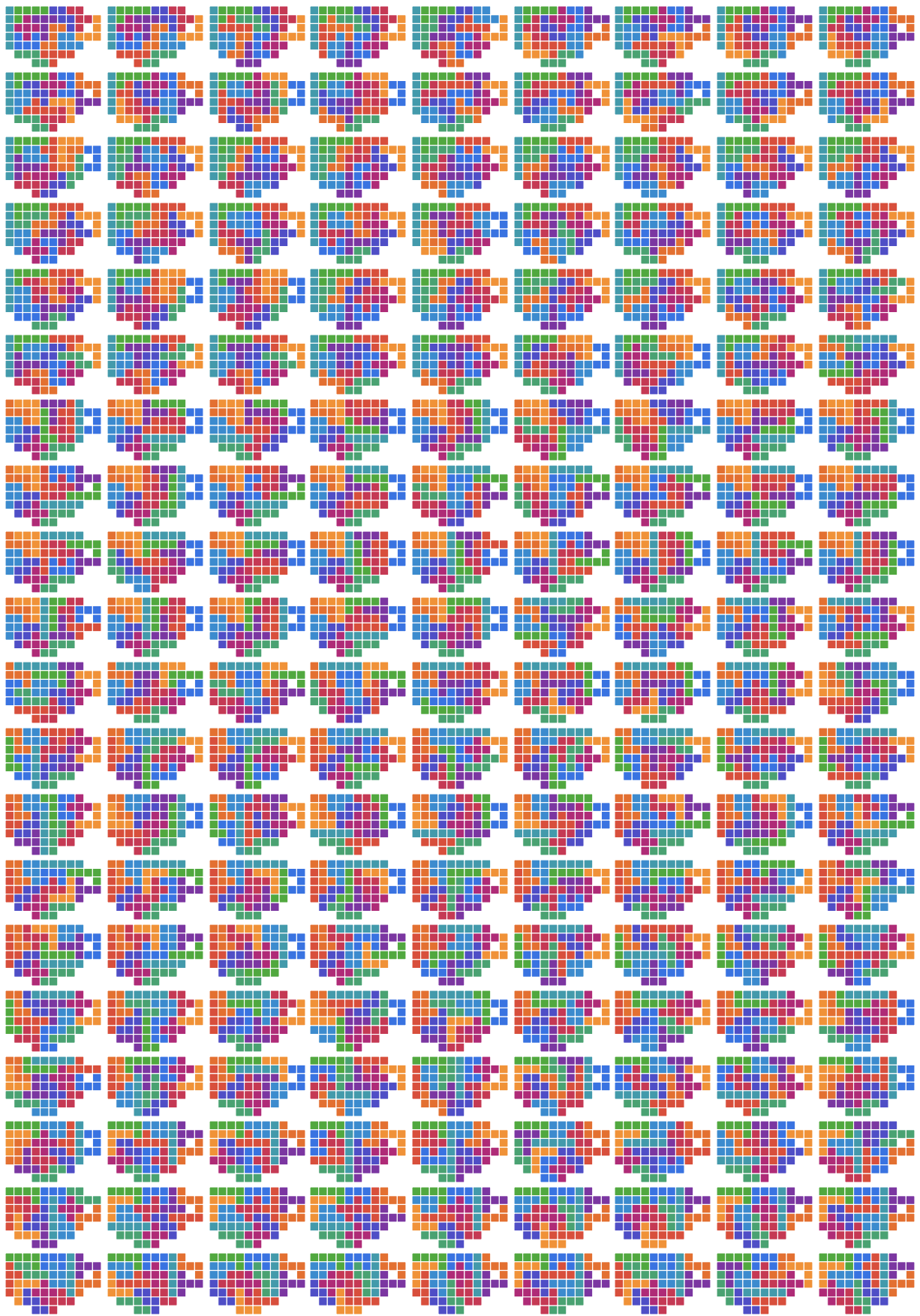


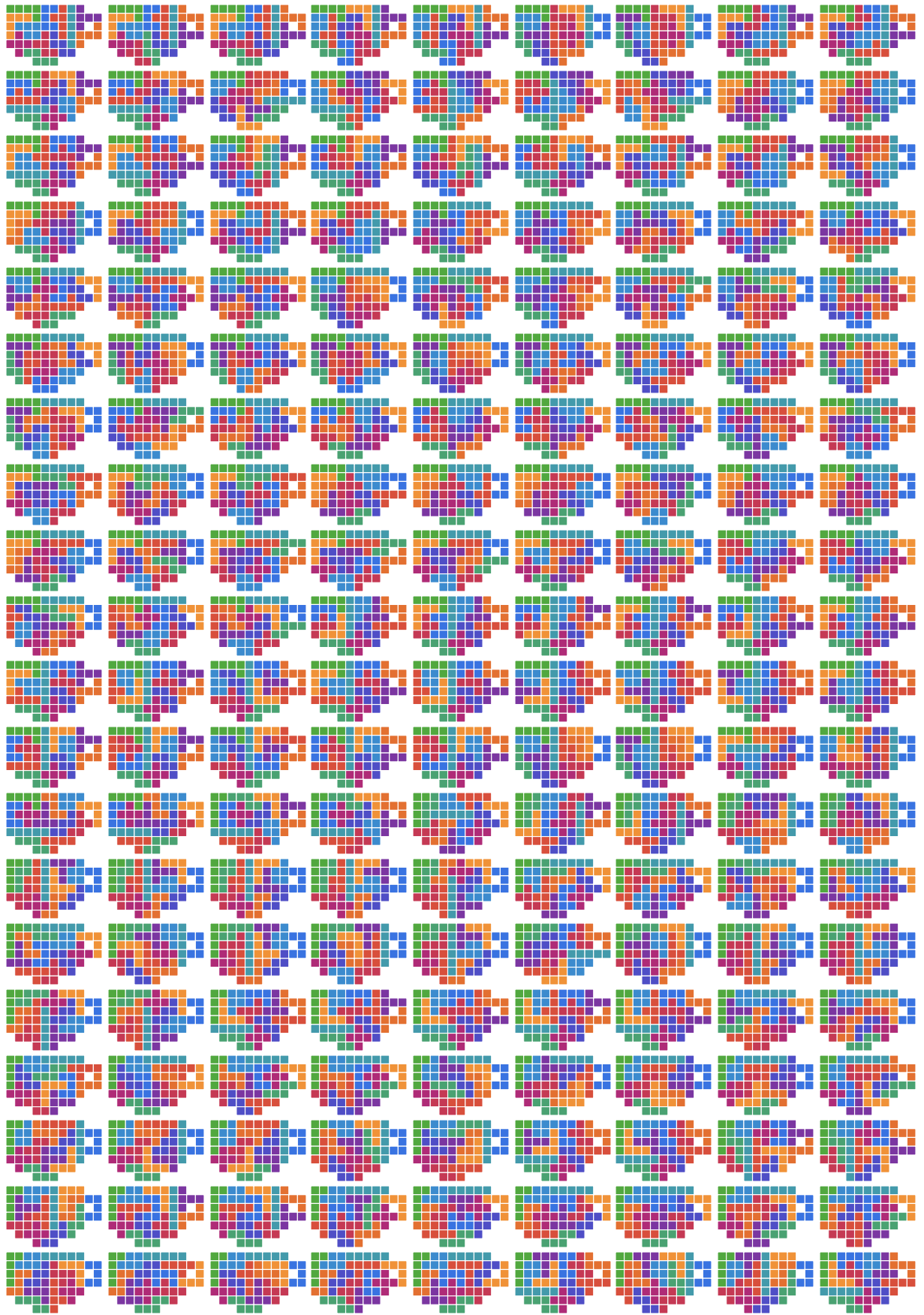


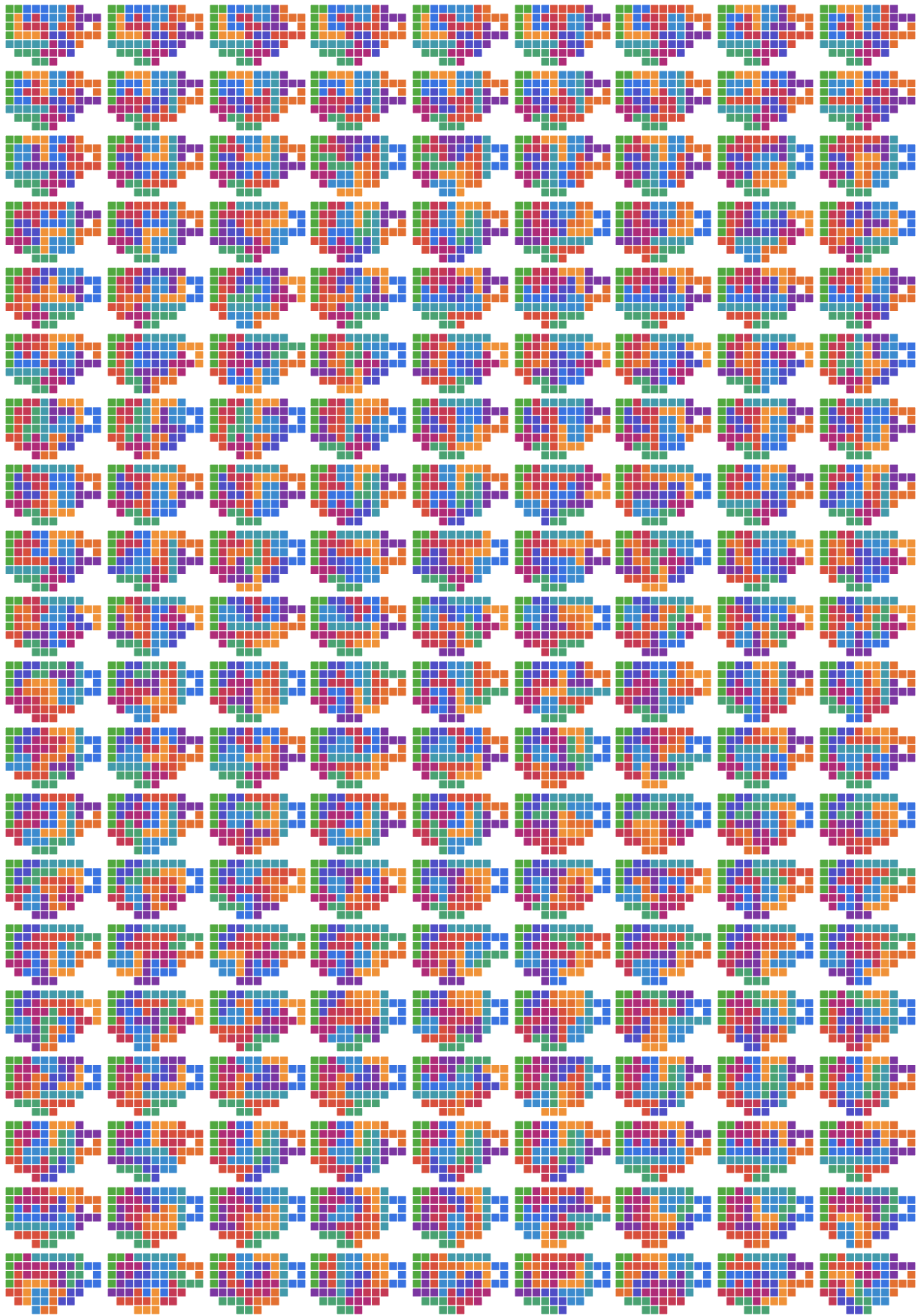


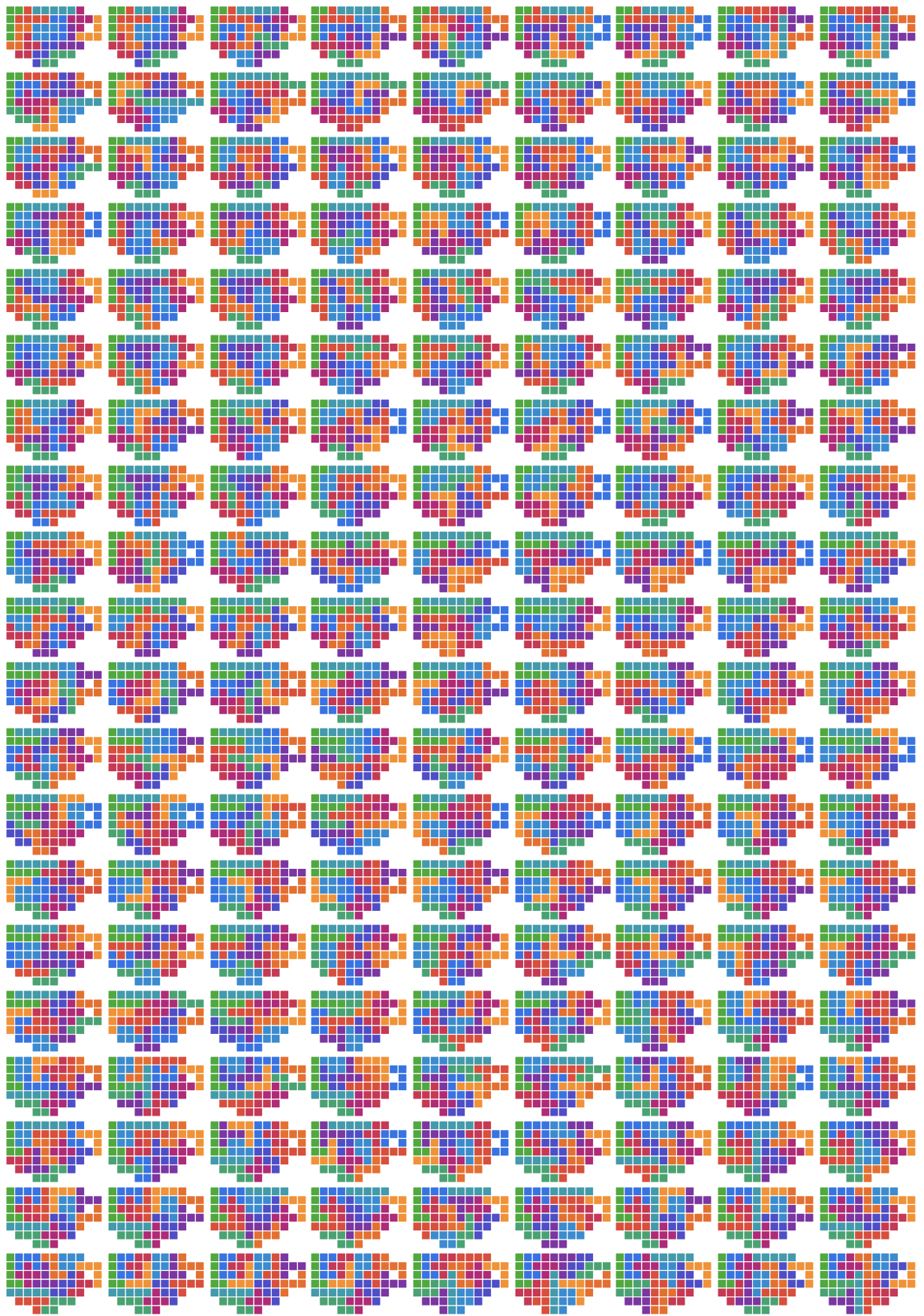




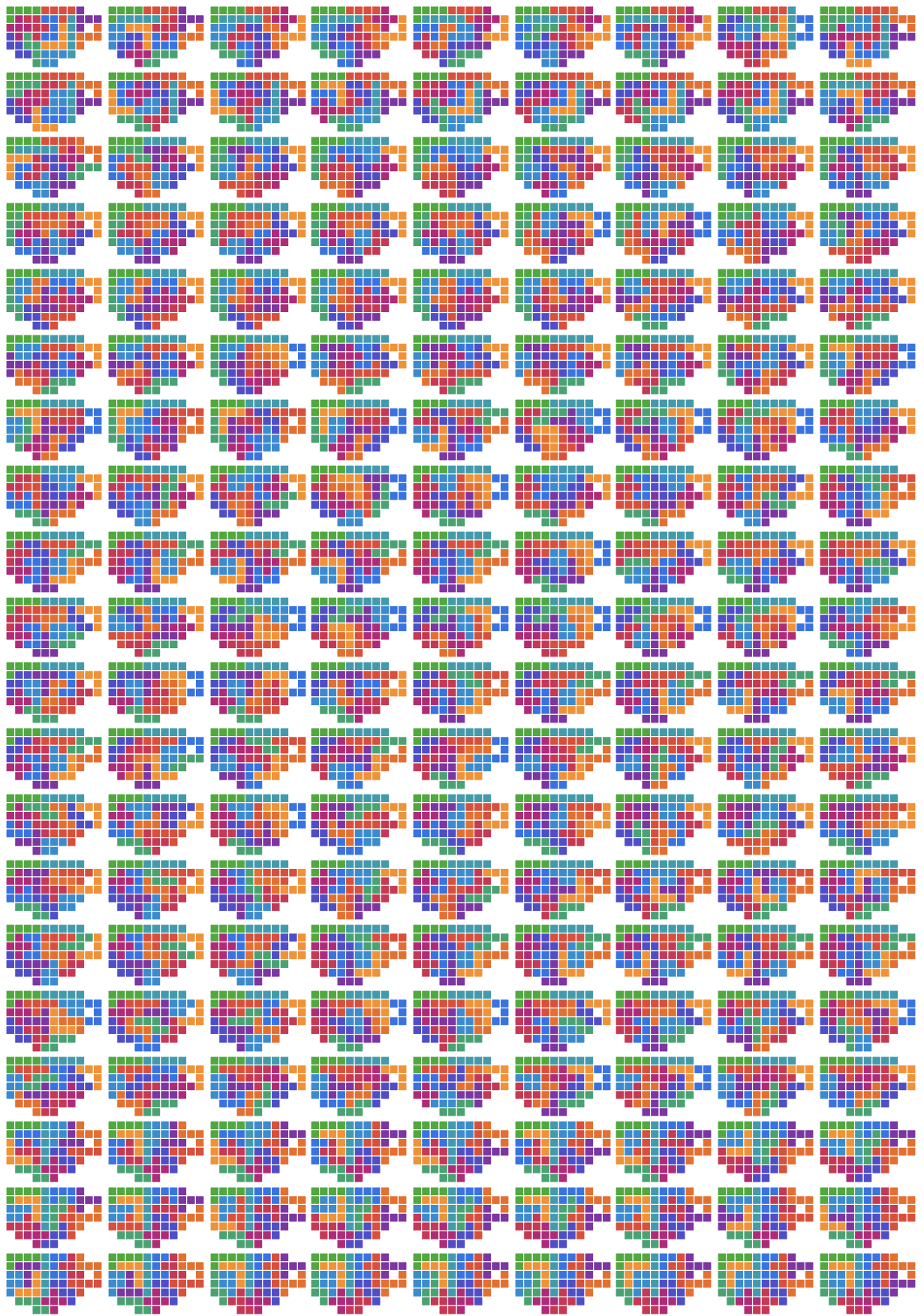


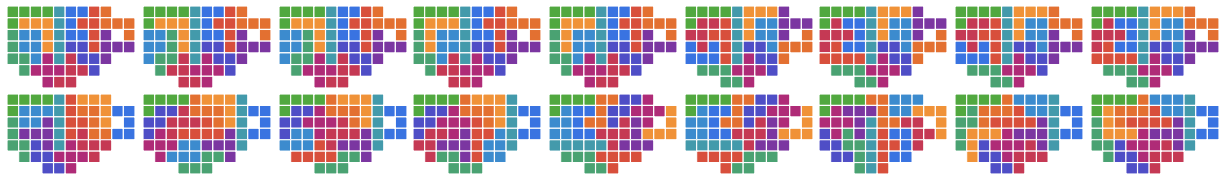


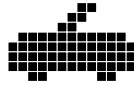








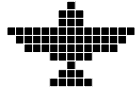




curling

66 Solutions





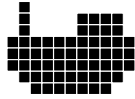
airplane

8 Solutions



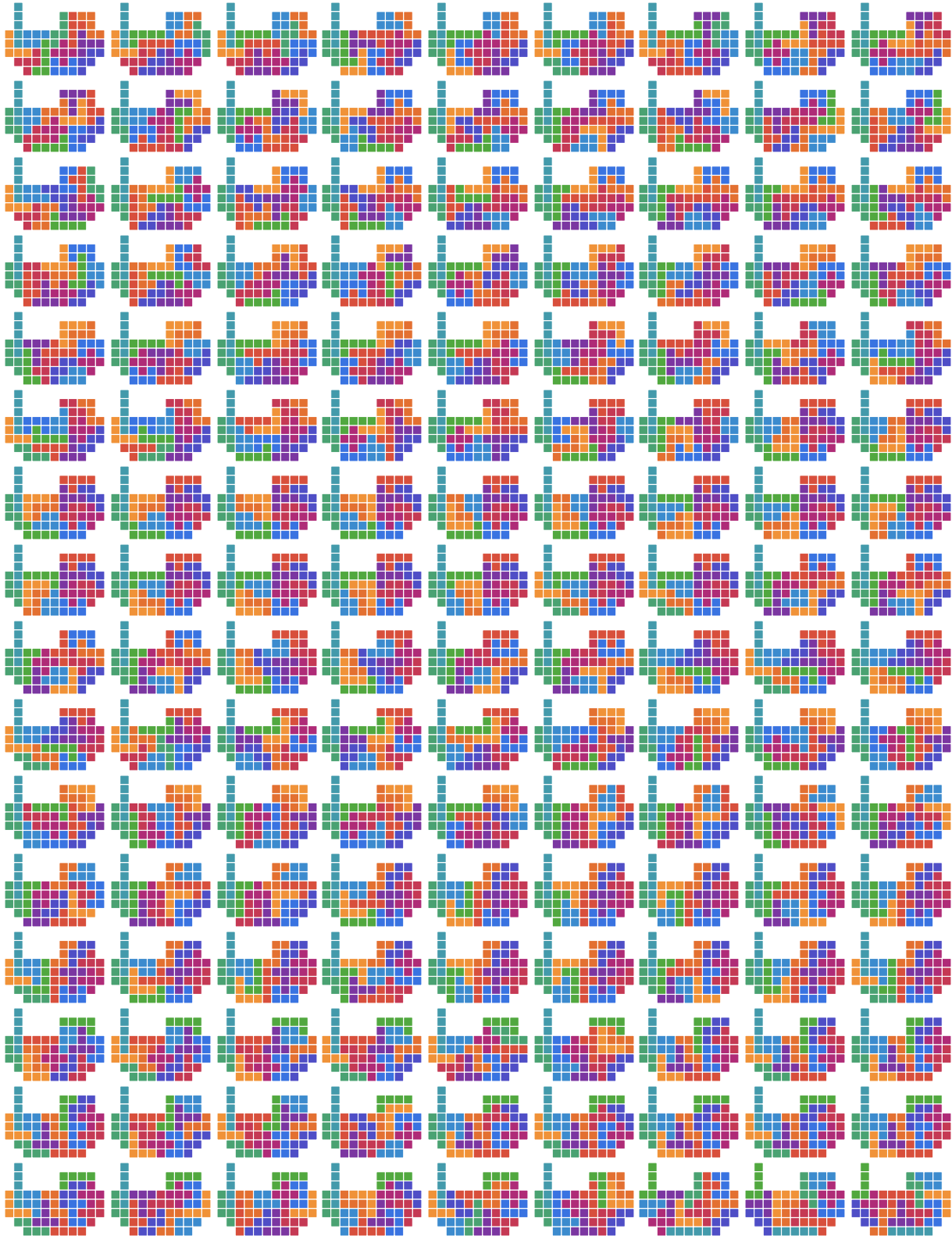
 **ufo**
1 Solution

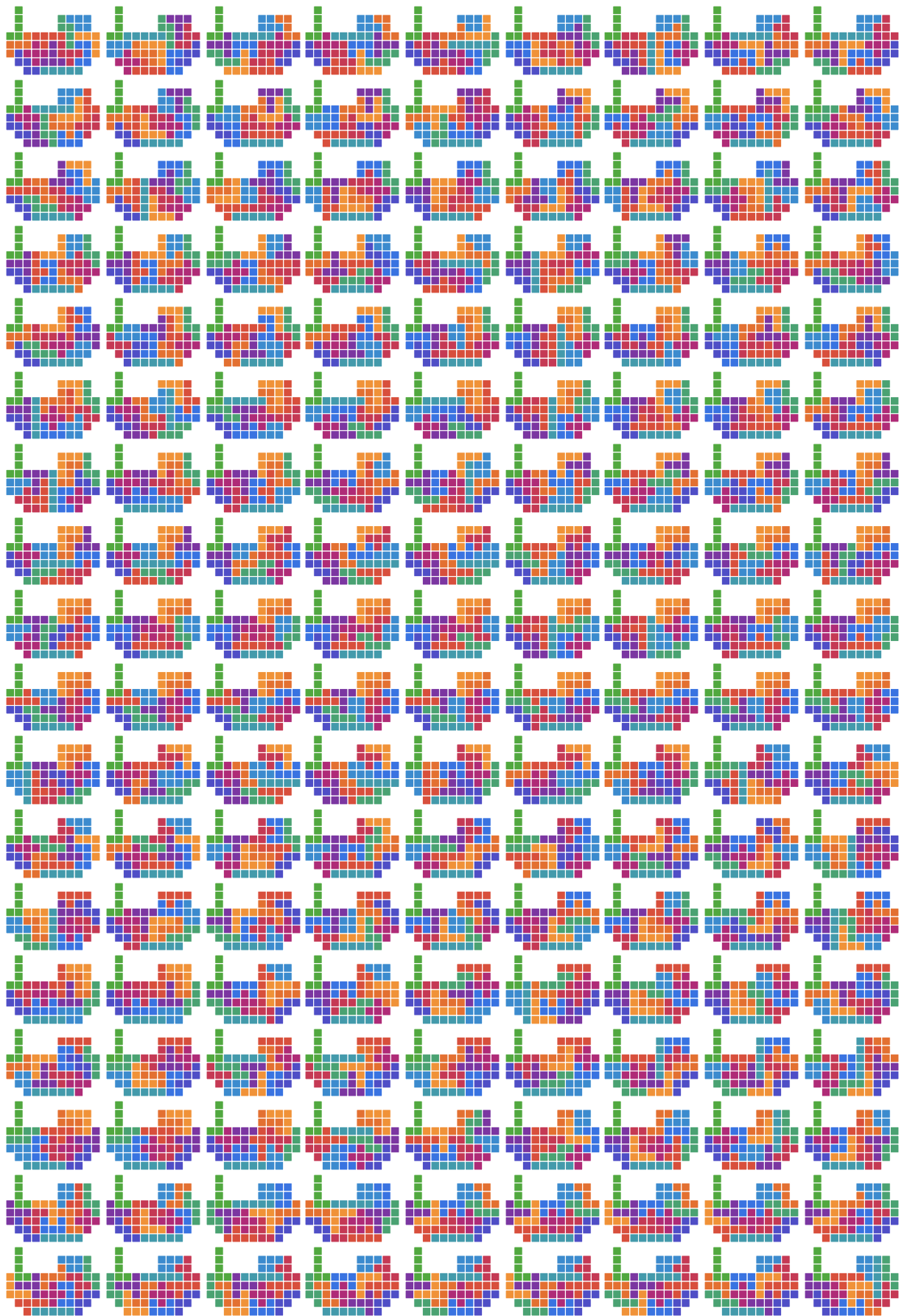


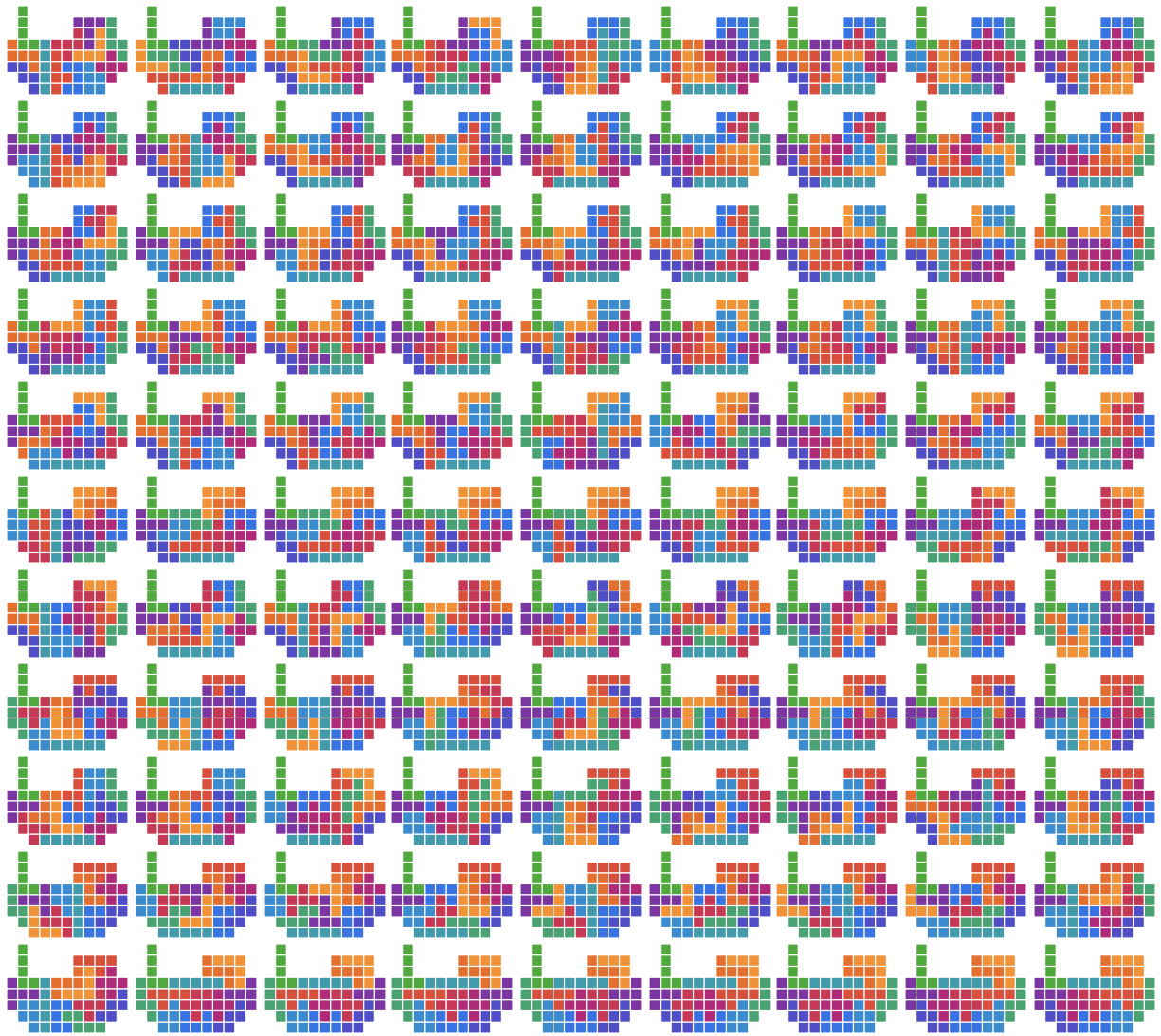


submarine

405 Solutions

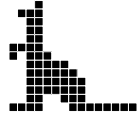




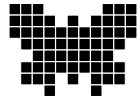


Animals

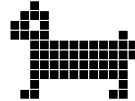
The Pentominoe Zoo!



kanga



butterfly



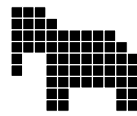
dog



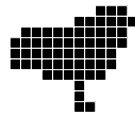
puppy



duck



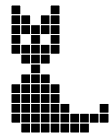
elephant



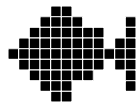
chick



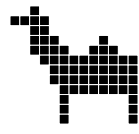
cat



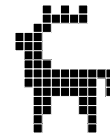
kitten



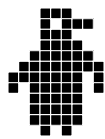
fish



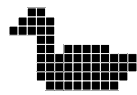
camel



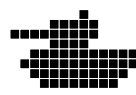
moose



penguin



goose



tank



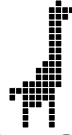
lion



alligator



dinosaur



giraffe



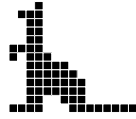
canary



rooster

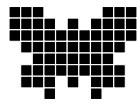


pig



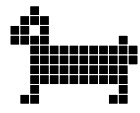
kanga
7 Solutions





butterfly
6 Solutions



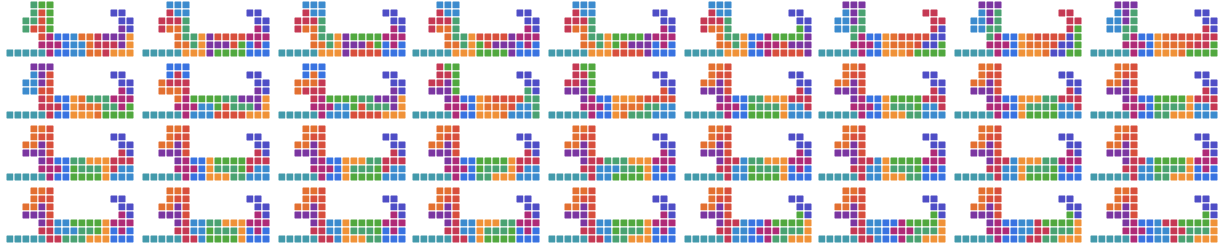


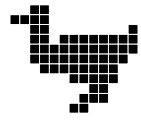
dog
1 Solution





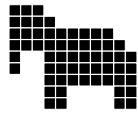
puppy
36 Solutions





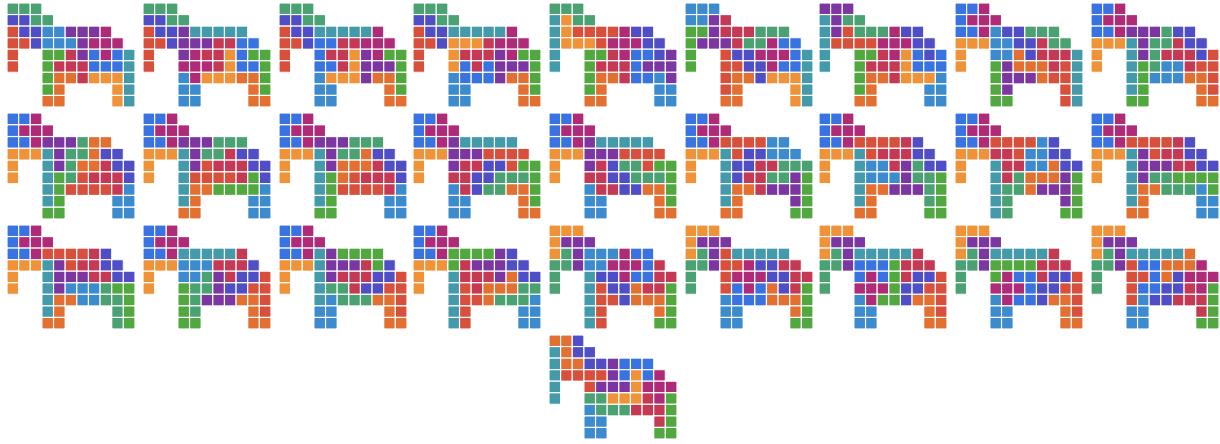
duck
4 Solutions





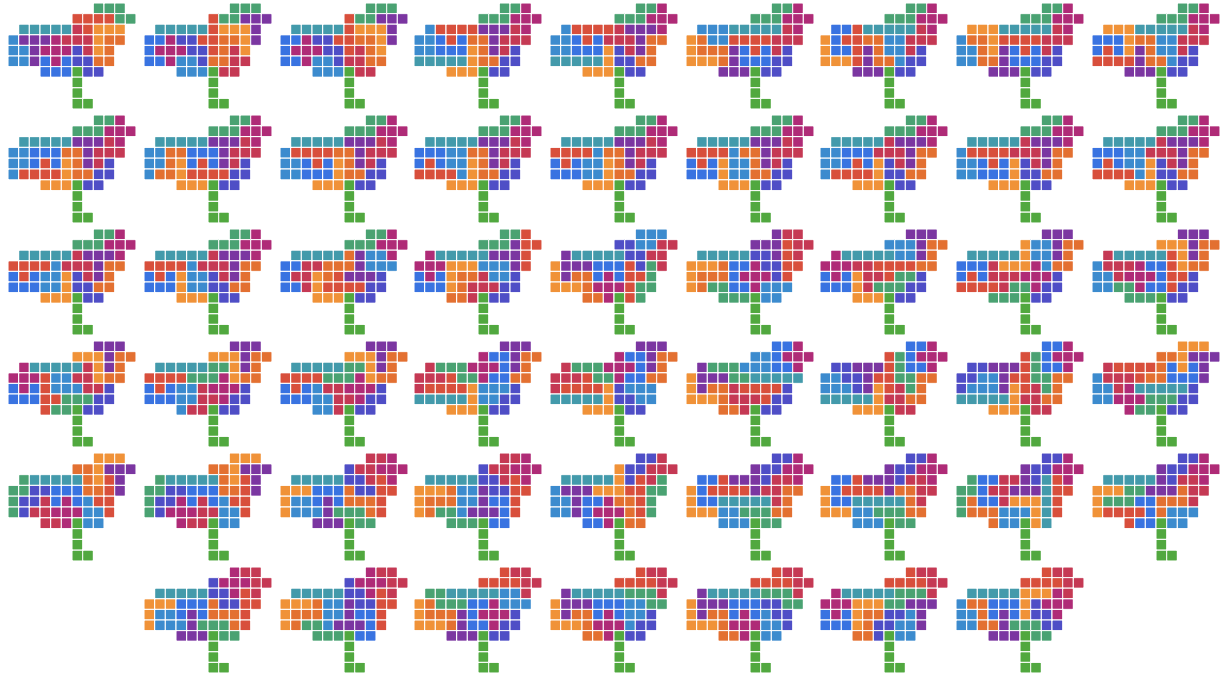
elephant

28 Solutions

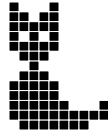




chick
52 Solutions







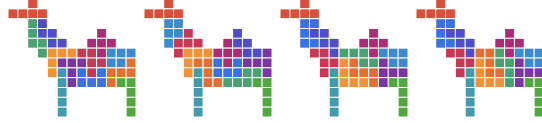
kitten
1 Solution







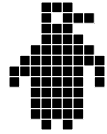
camel
4 Solutions



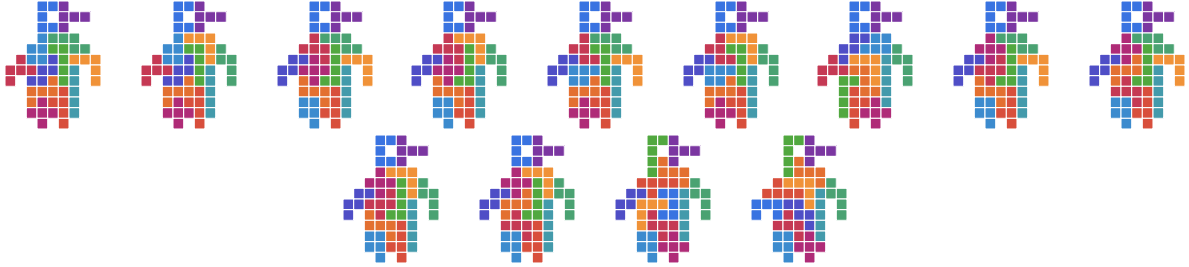


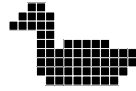
moose
2 Solutions



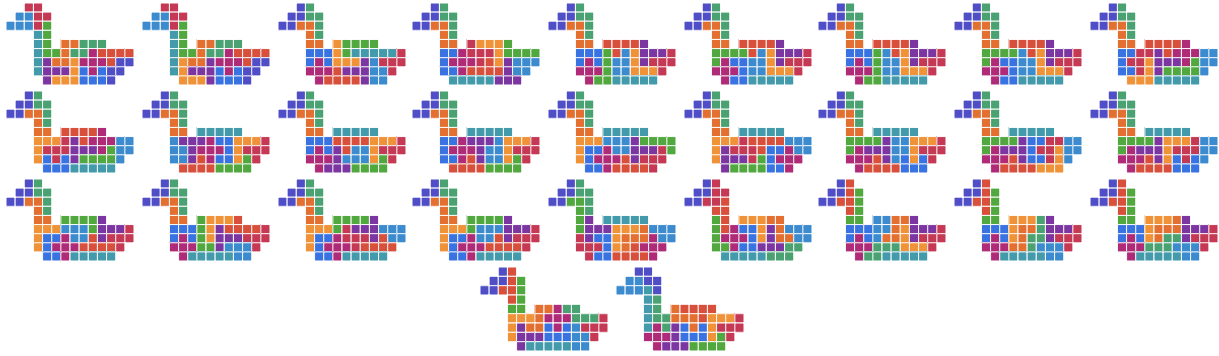


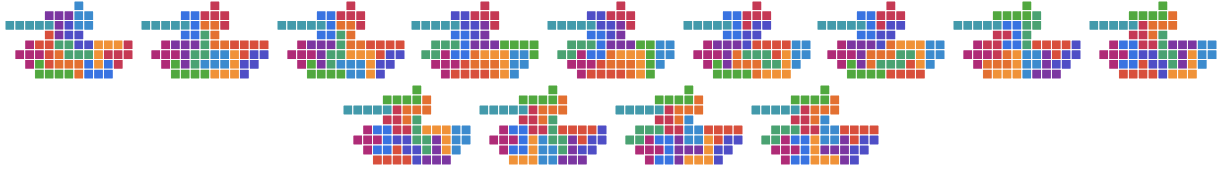
penguin
13 Solutions

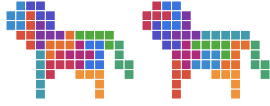




goose
29 Solutions









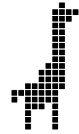
alligator
1 Solution





dinosaur
1 Solution





giraffe
1 Solution



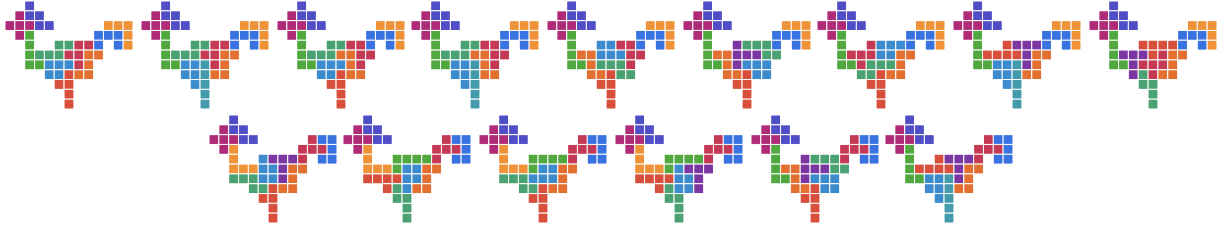


canary
1 Solution



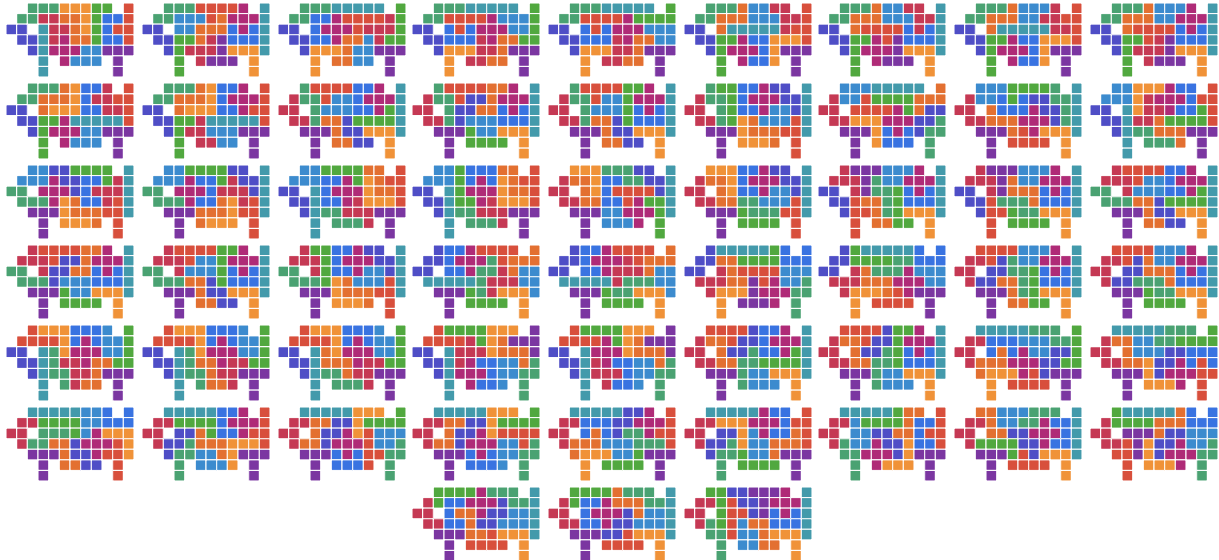


rooster
15 Solutions



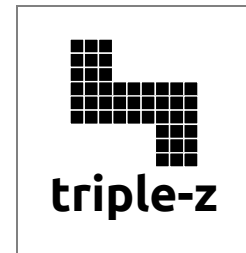
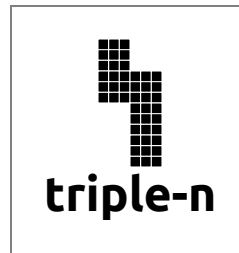
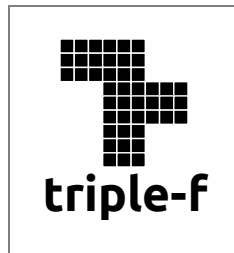
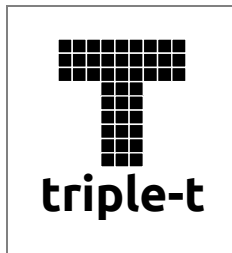
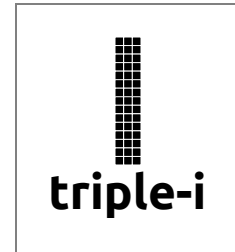
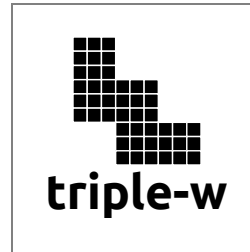
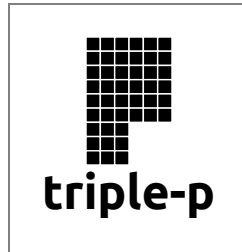
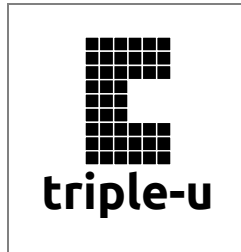
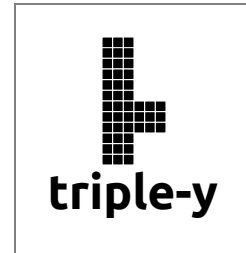
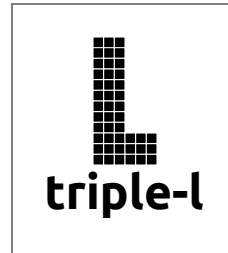
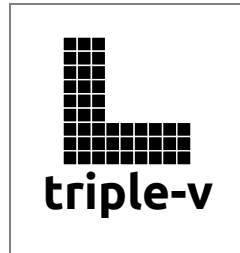
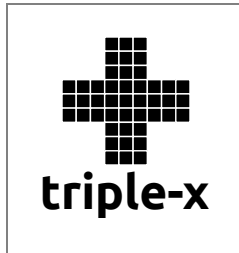


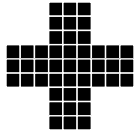
pig
57
Solutions



Triplifications

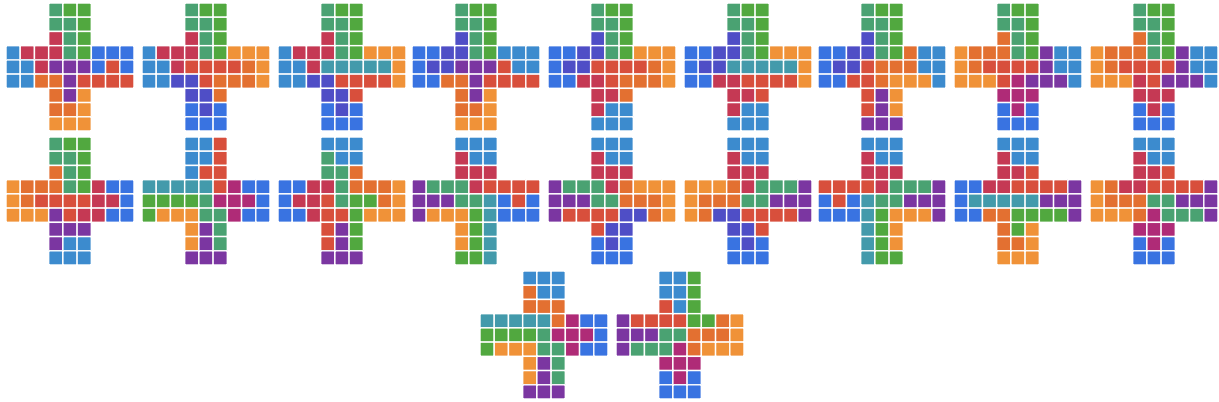
Pentominoe Triplifications: Each Pentominoe piece reproduced three times larger using only 9 of the 12.

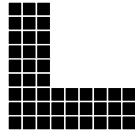




triple-x

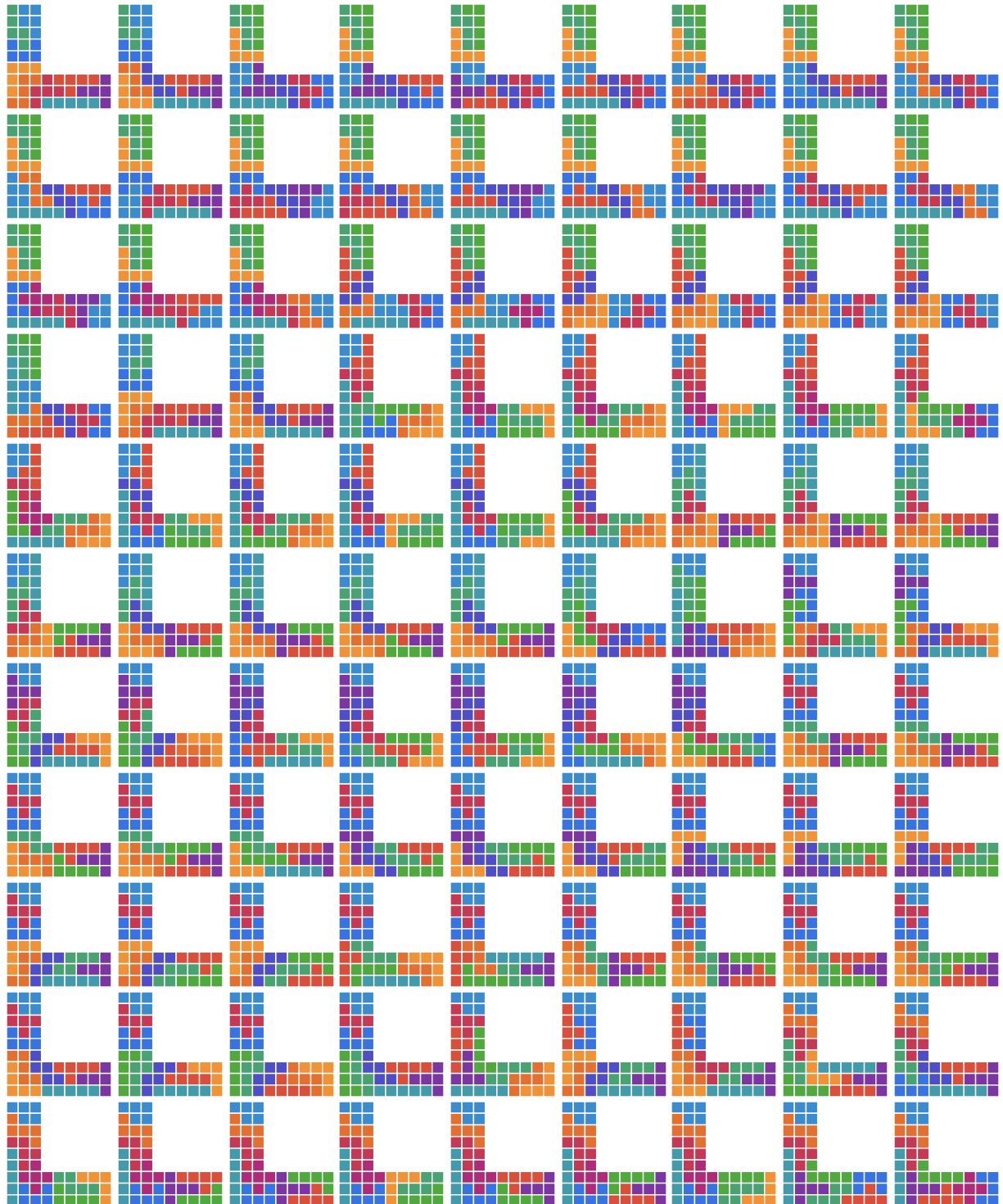
20 Solutions

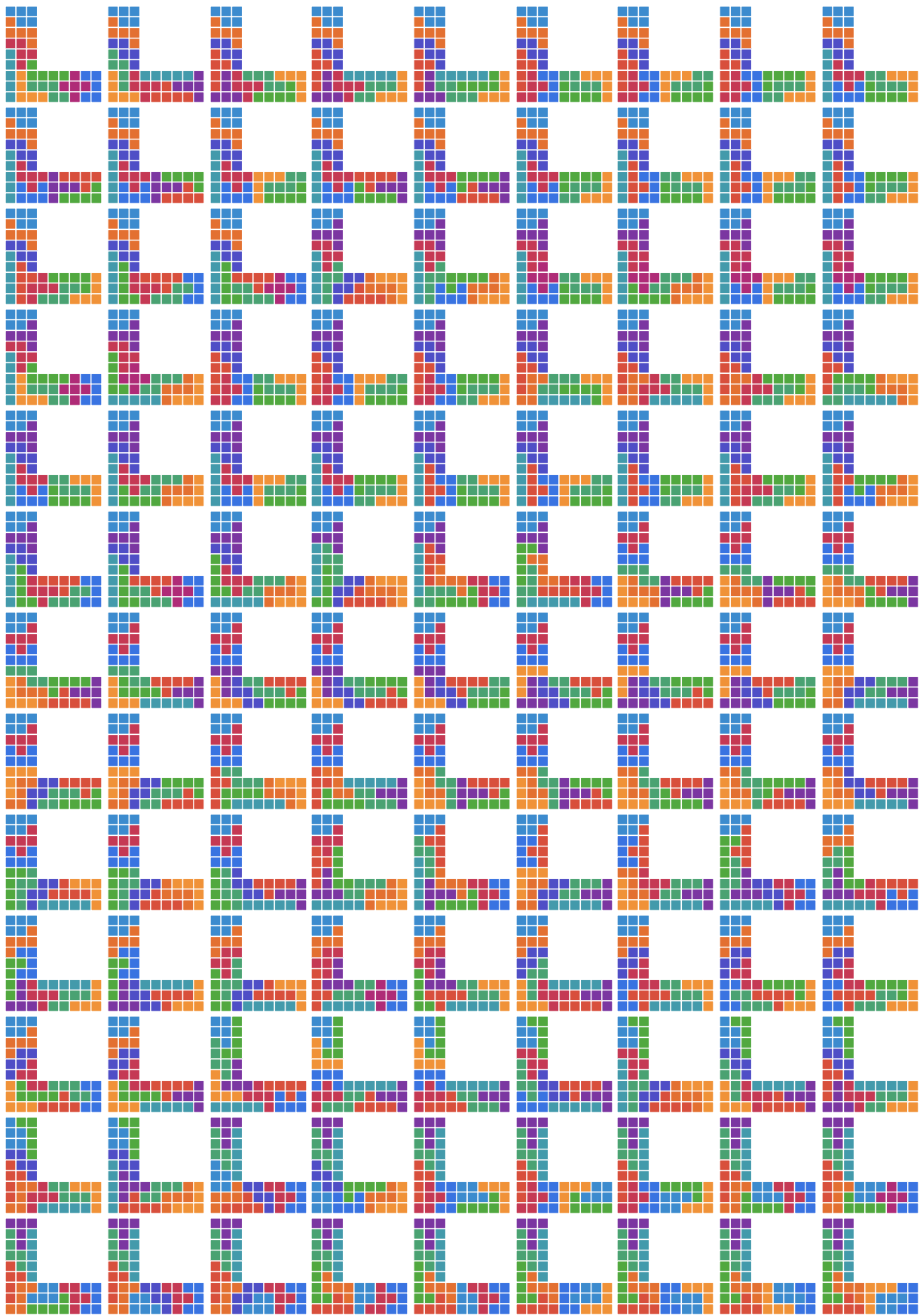


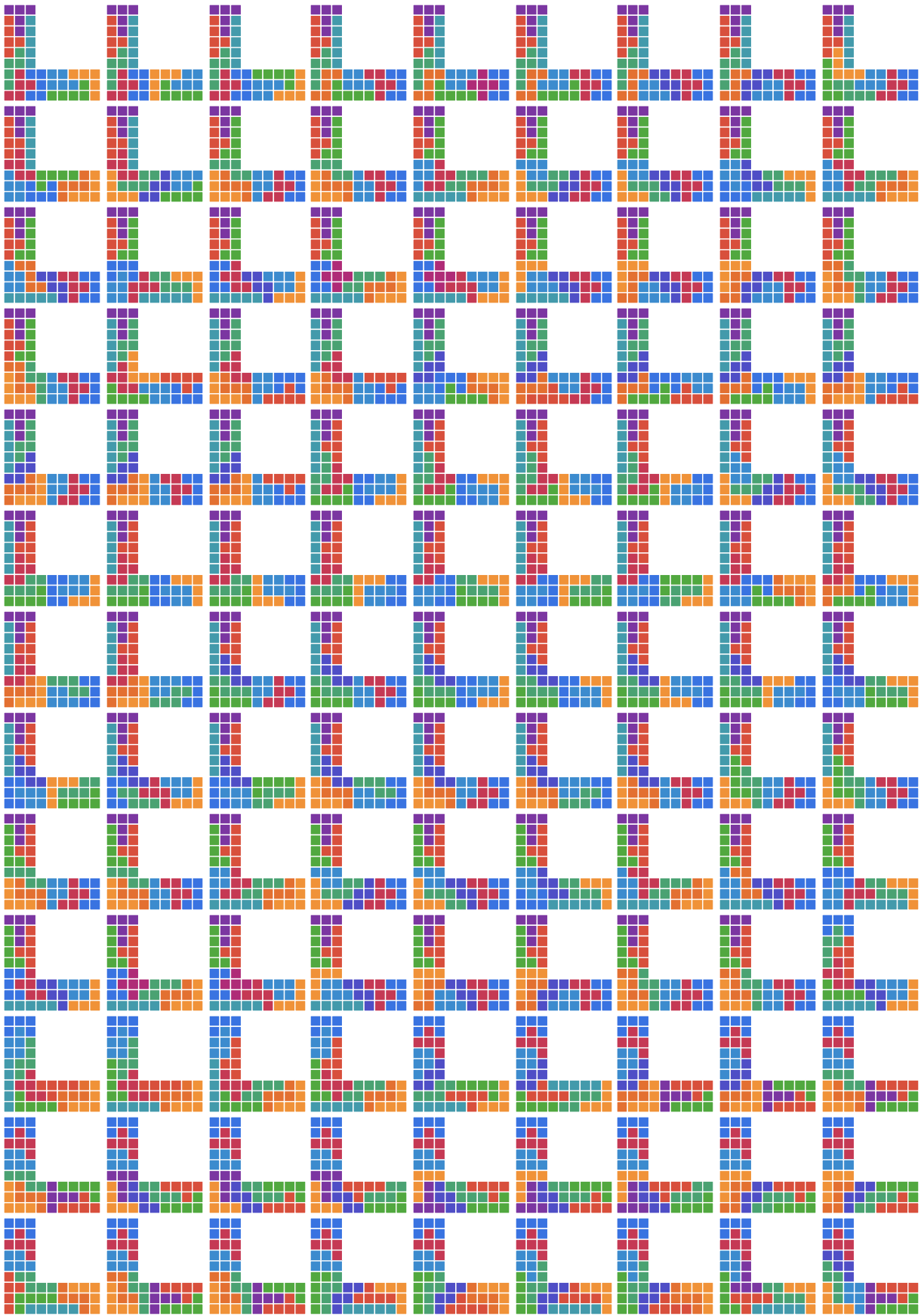


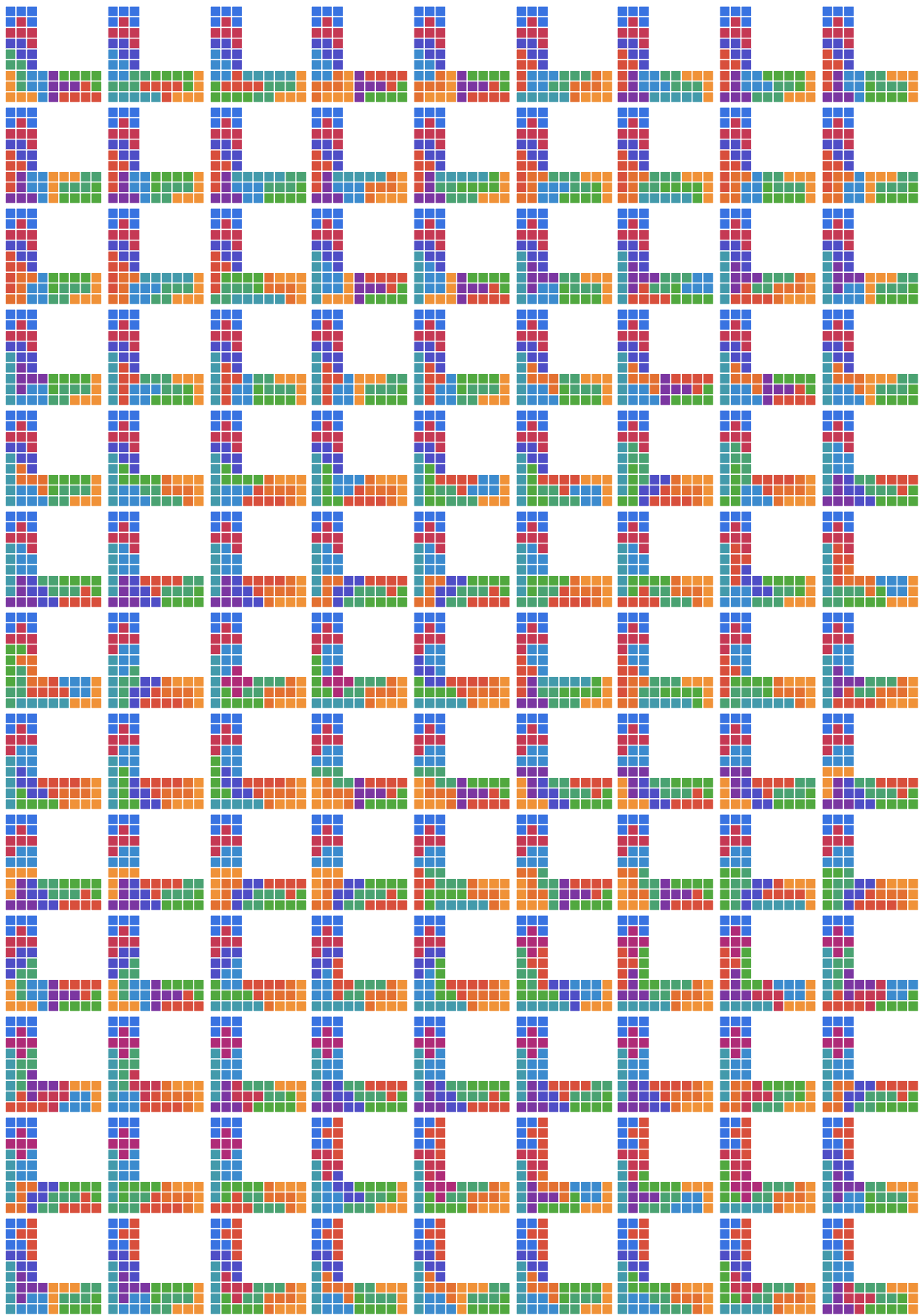
triple-v

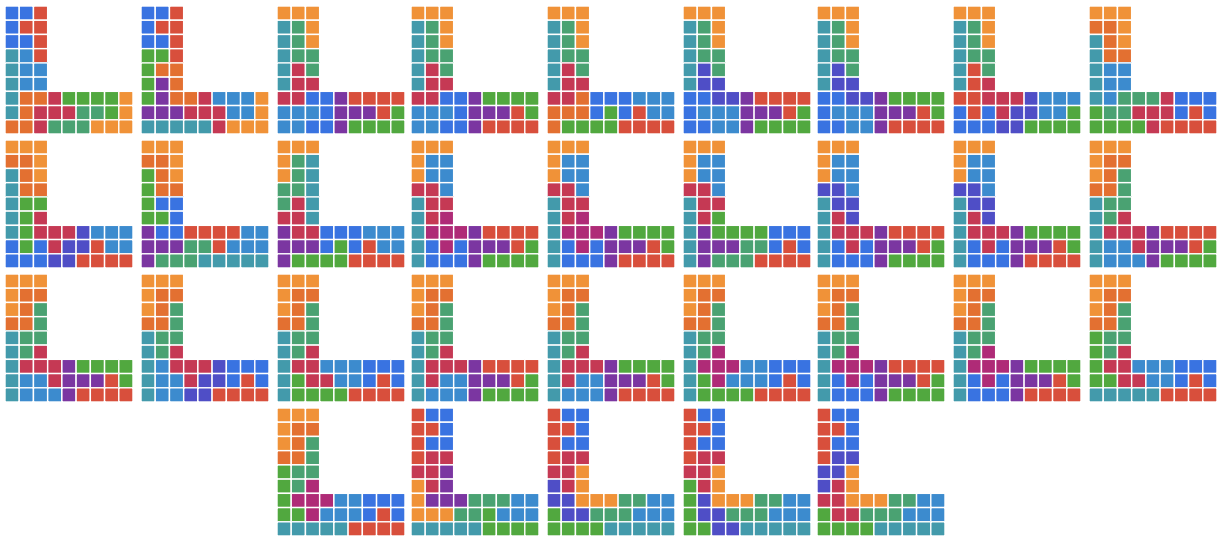
482 Solutions

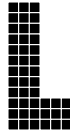






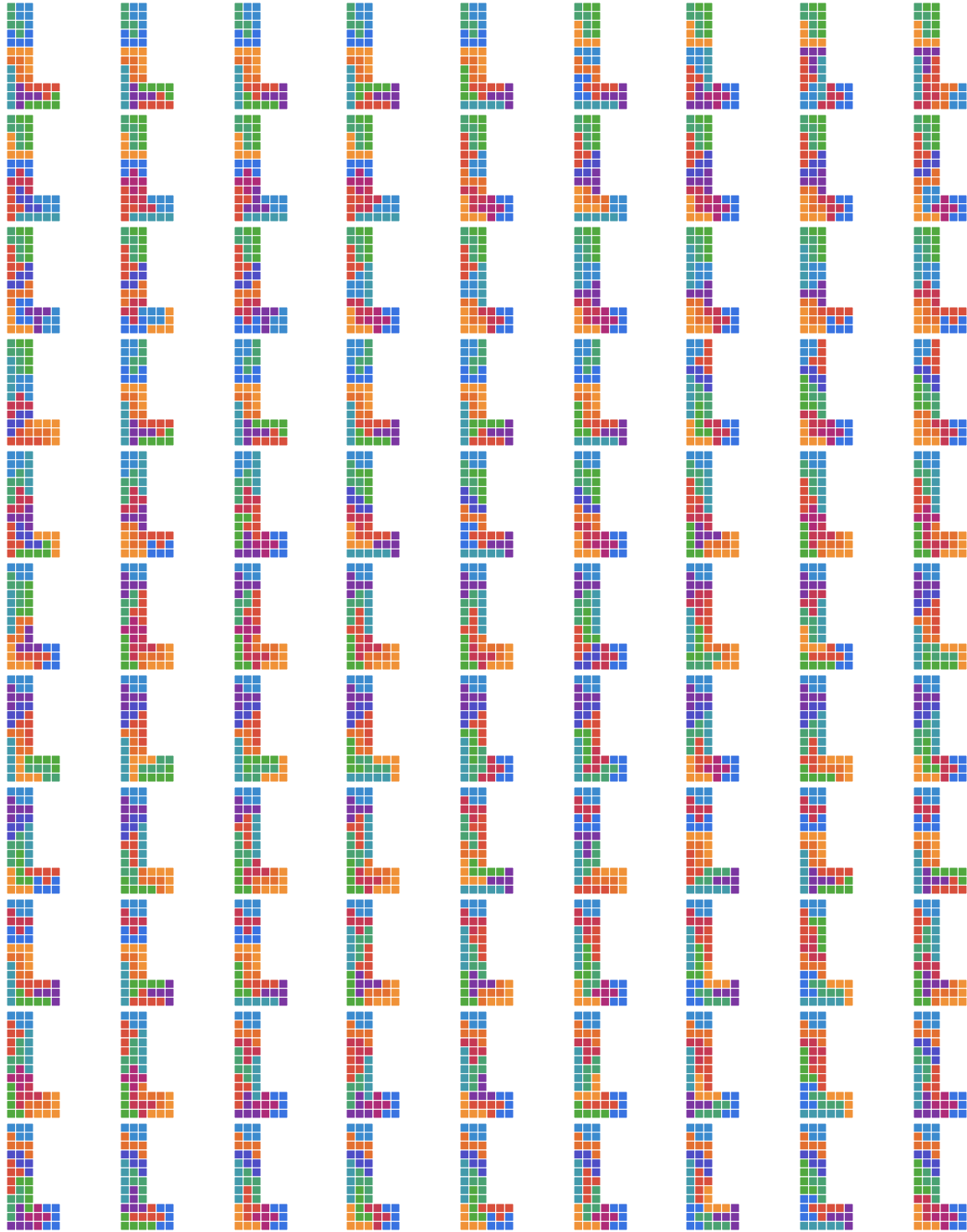


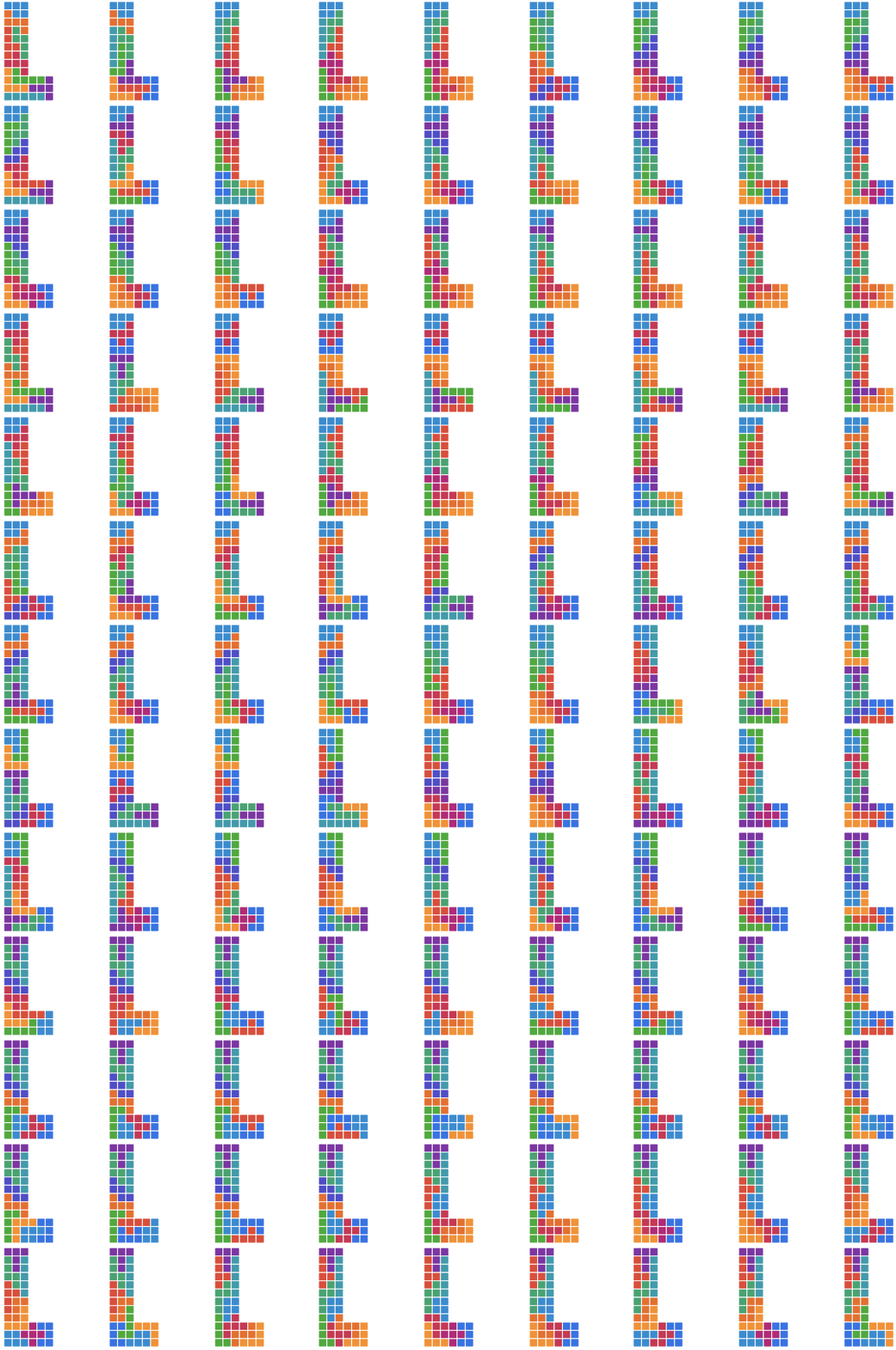


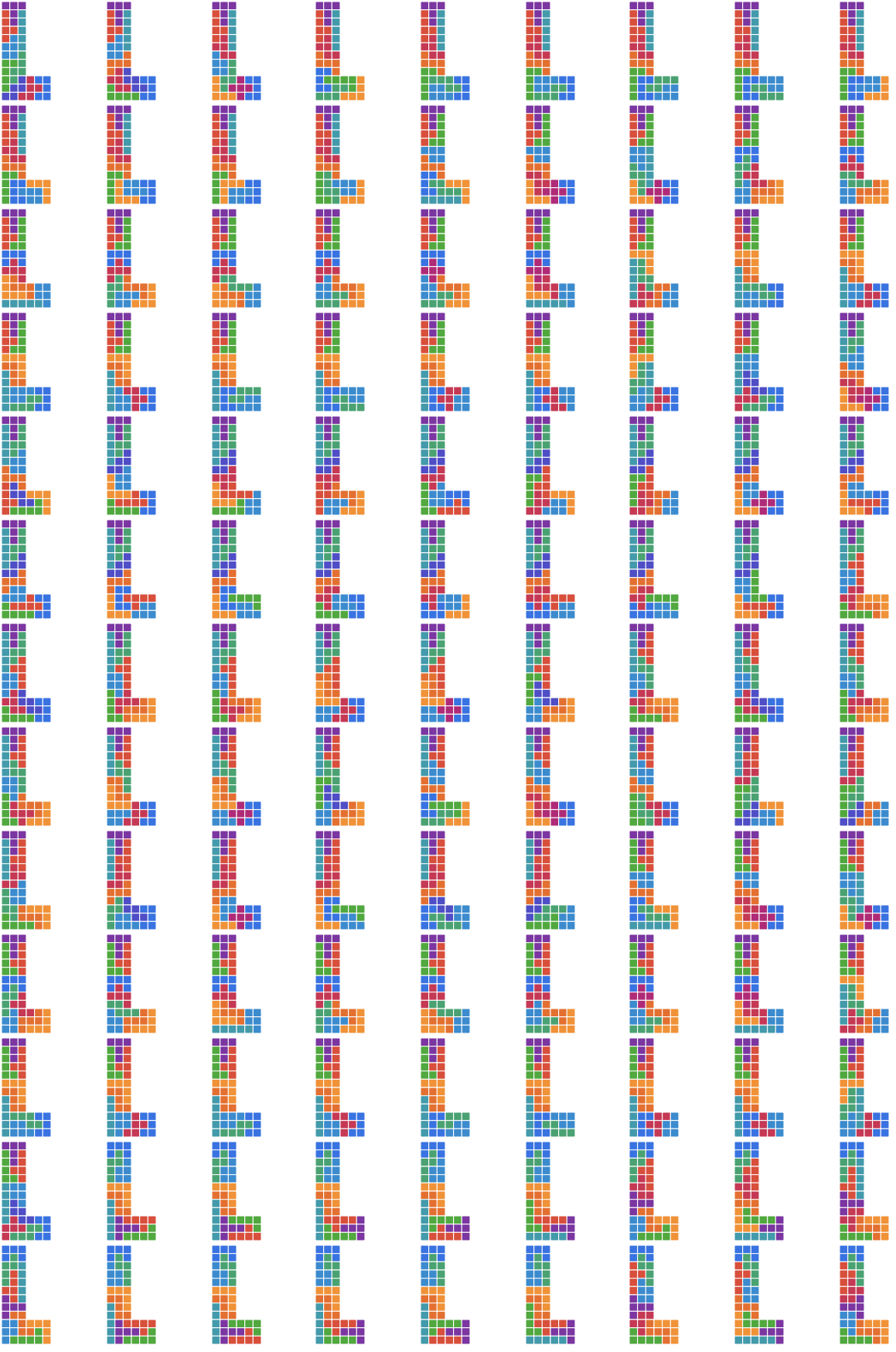


triple-l

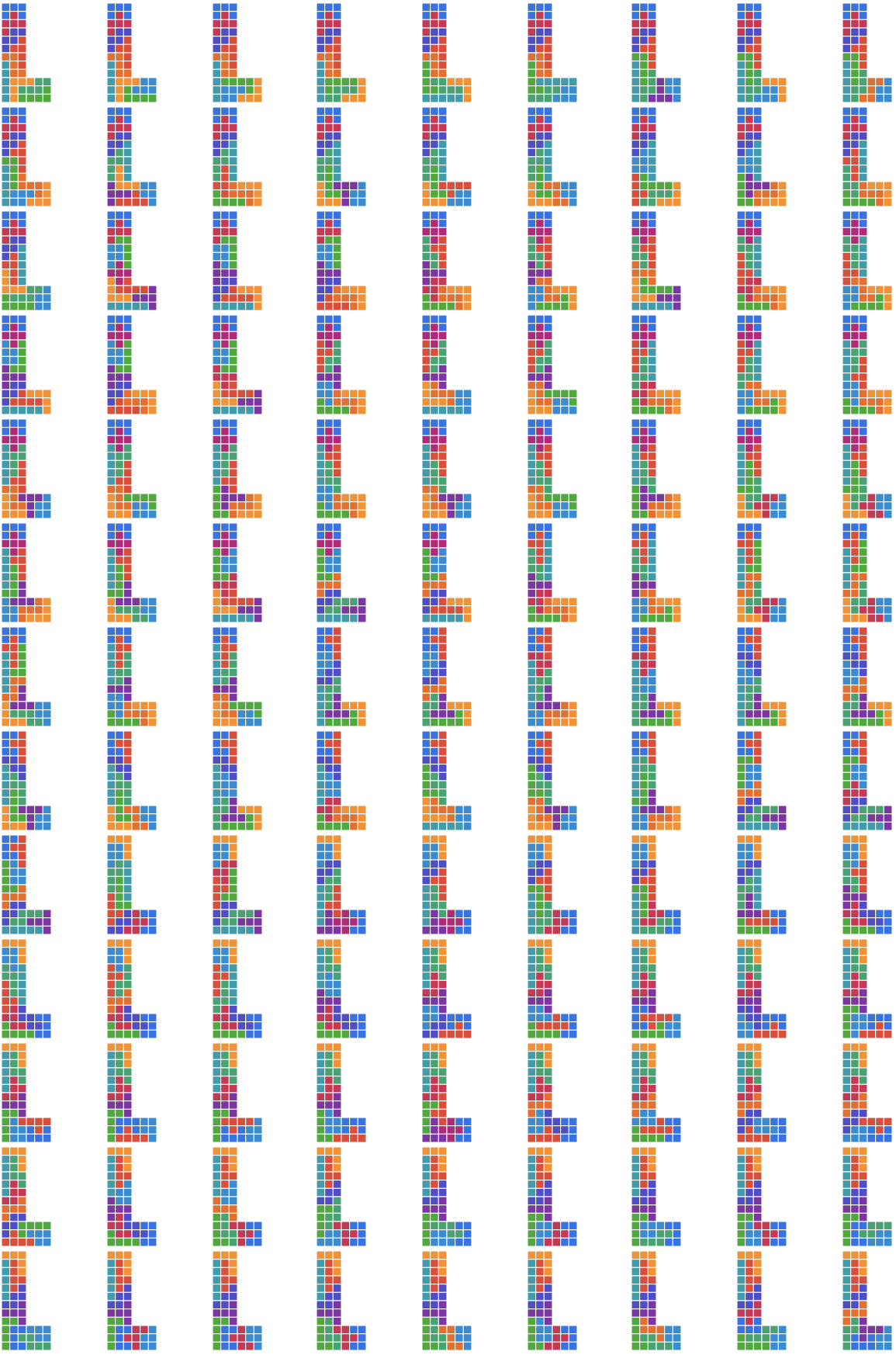
938 Solutions

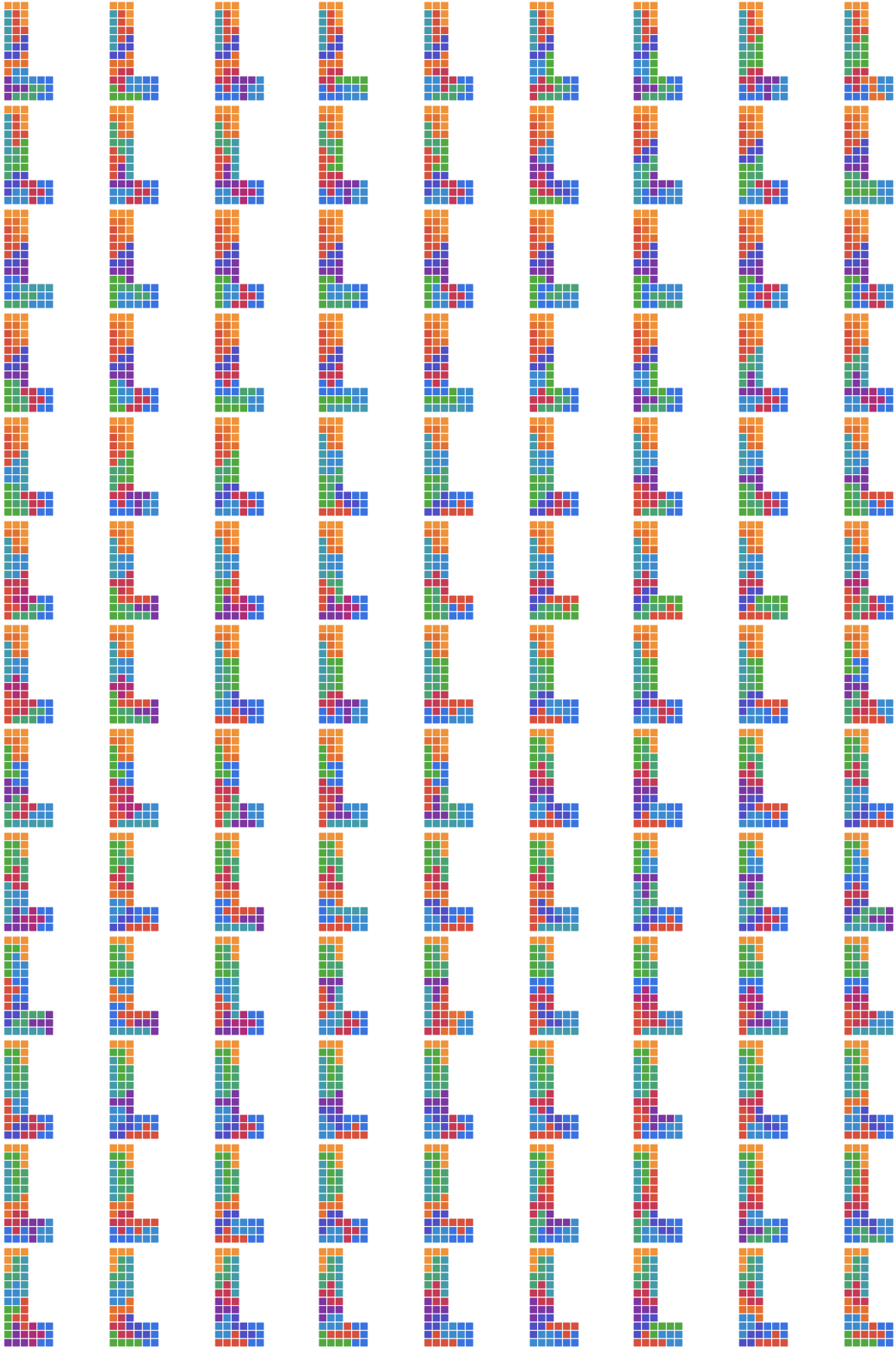


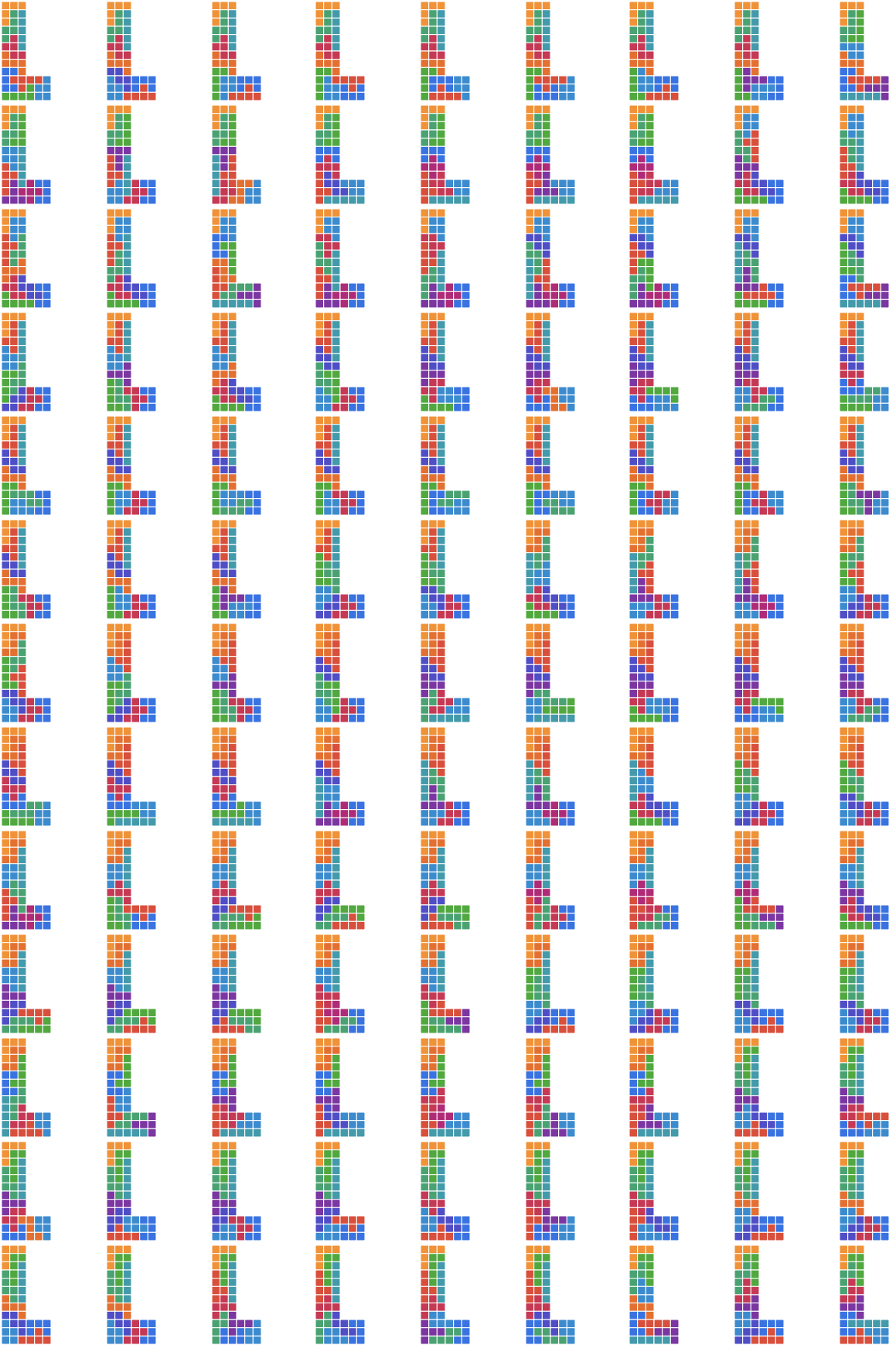


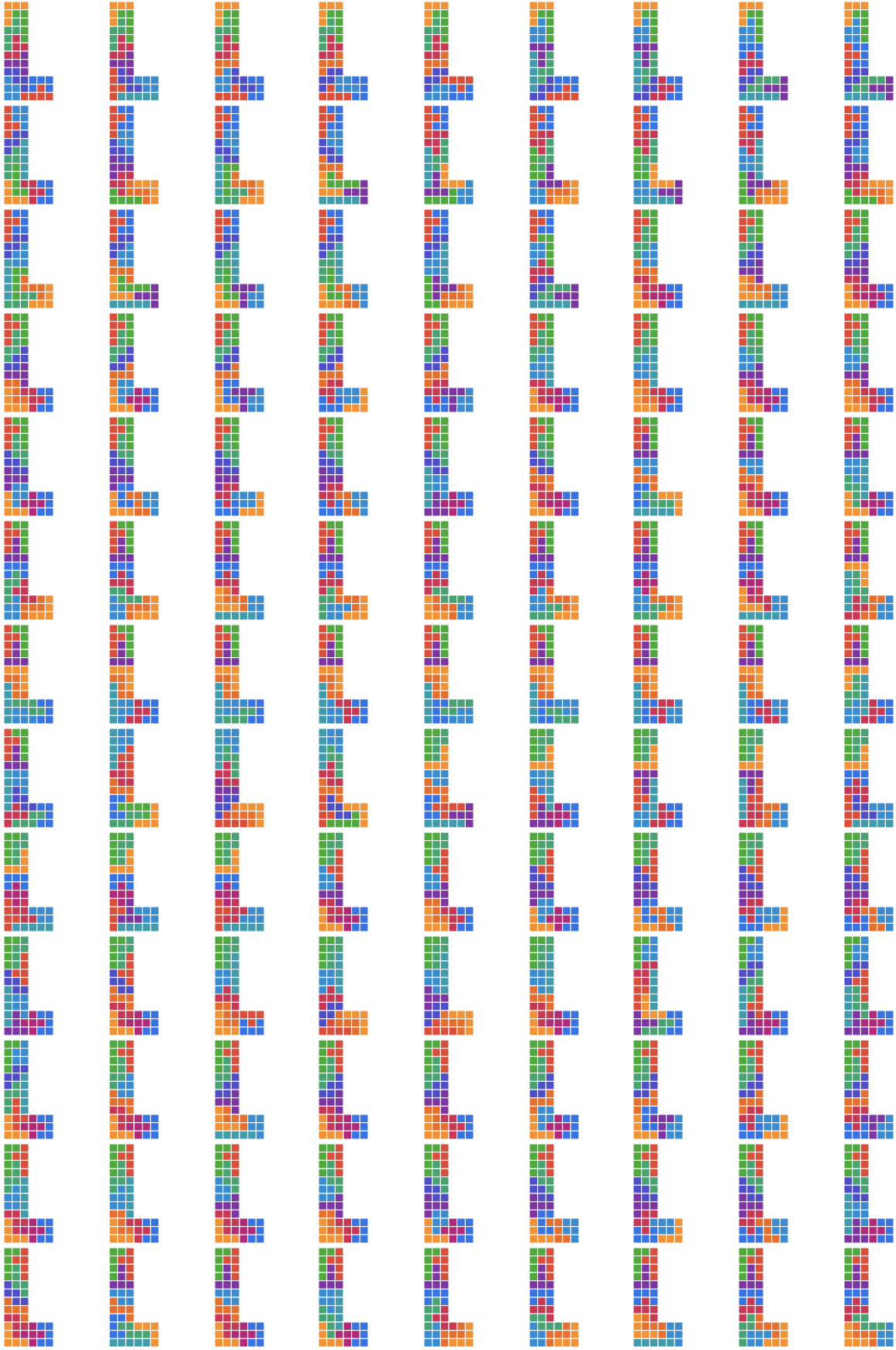


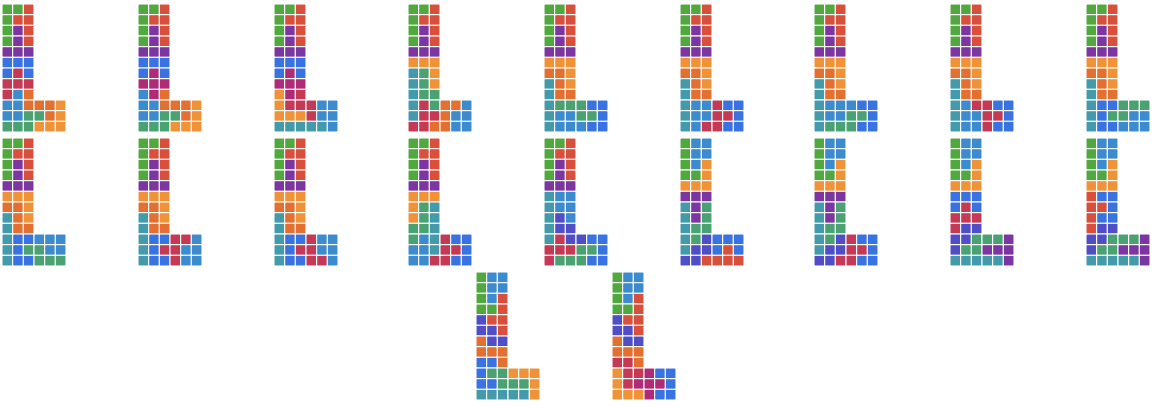


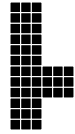






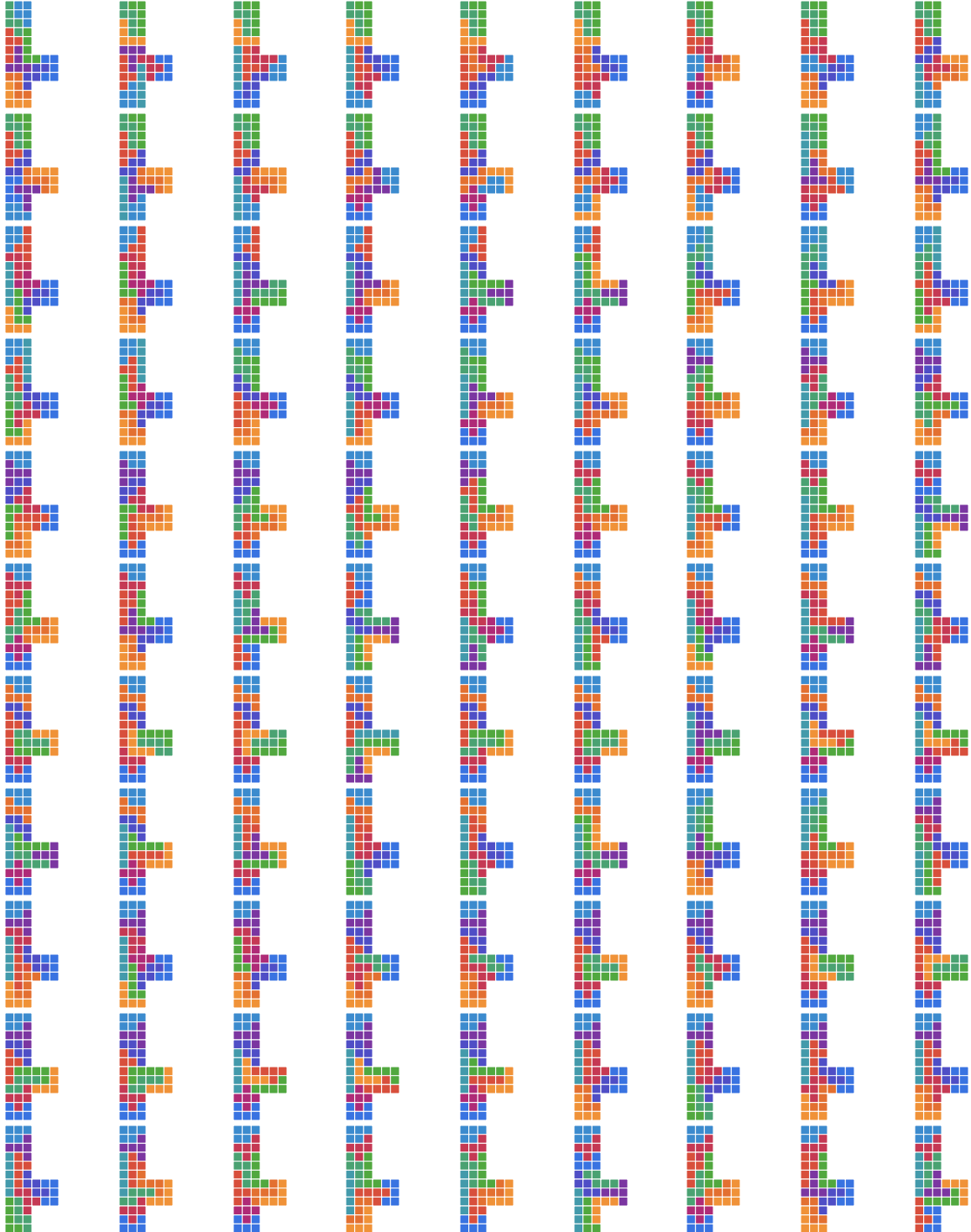


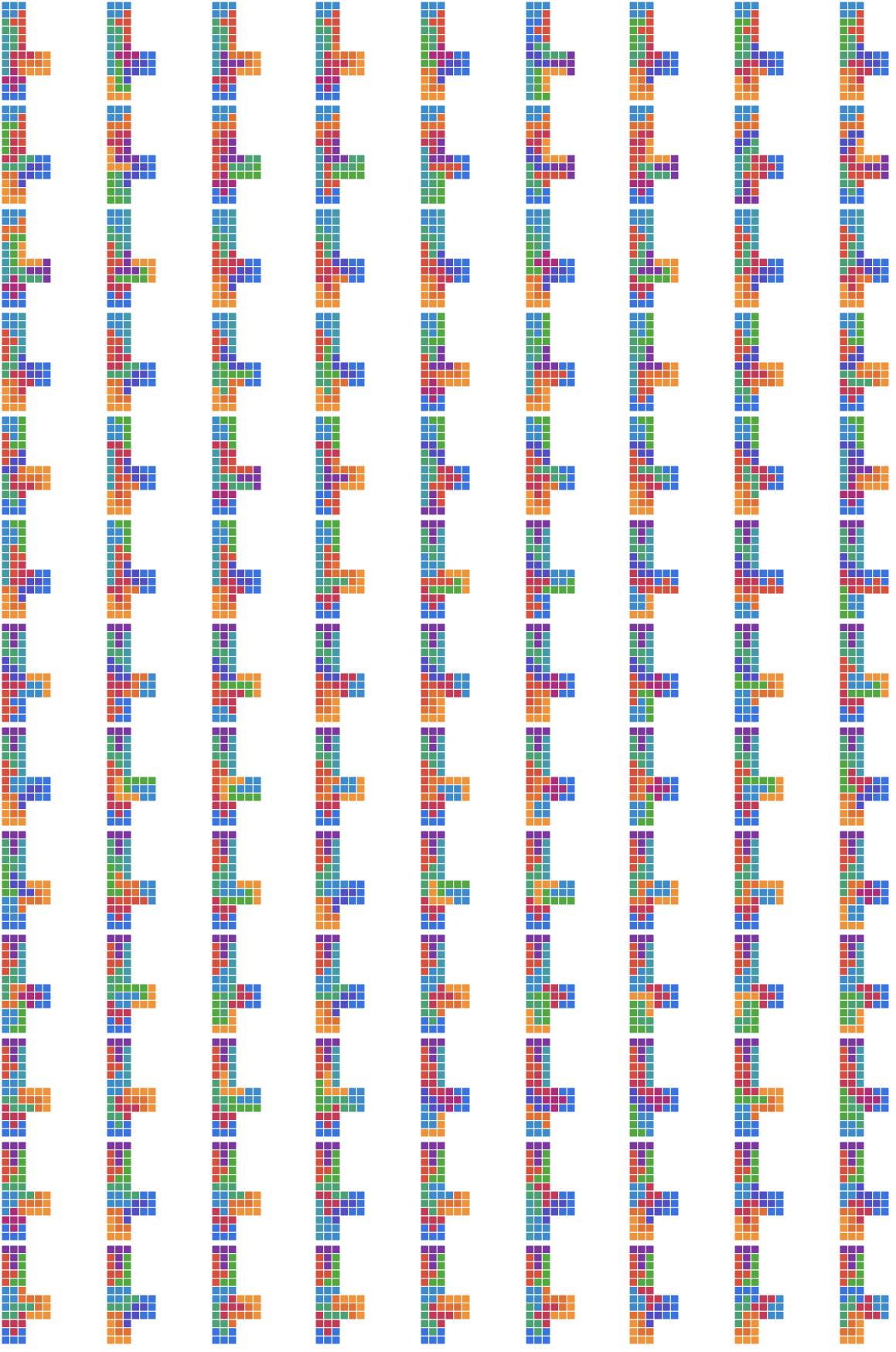


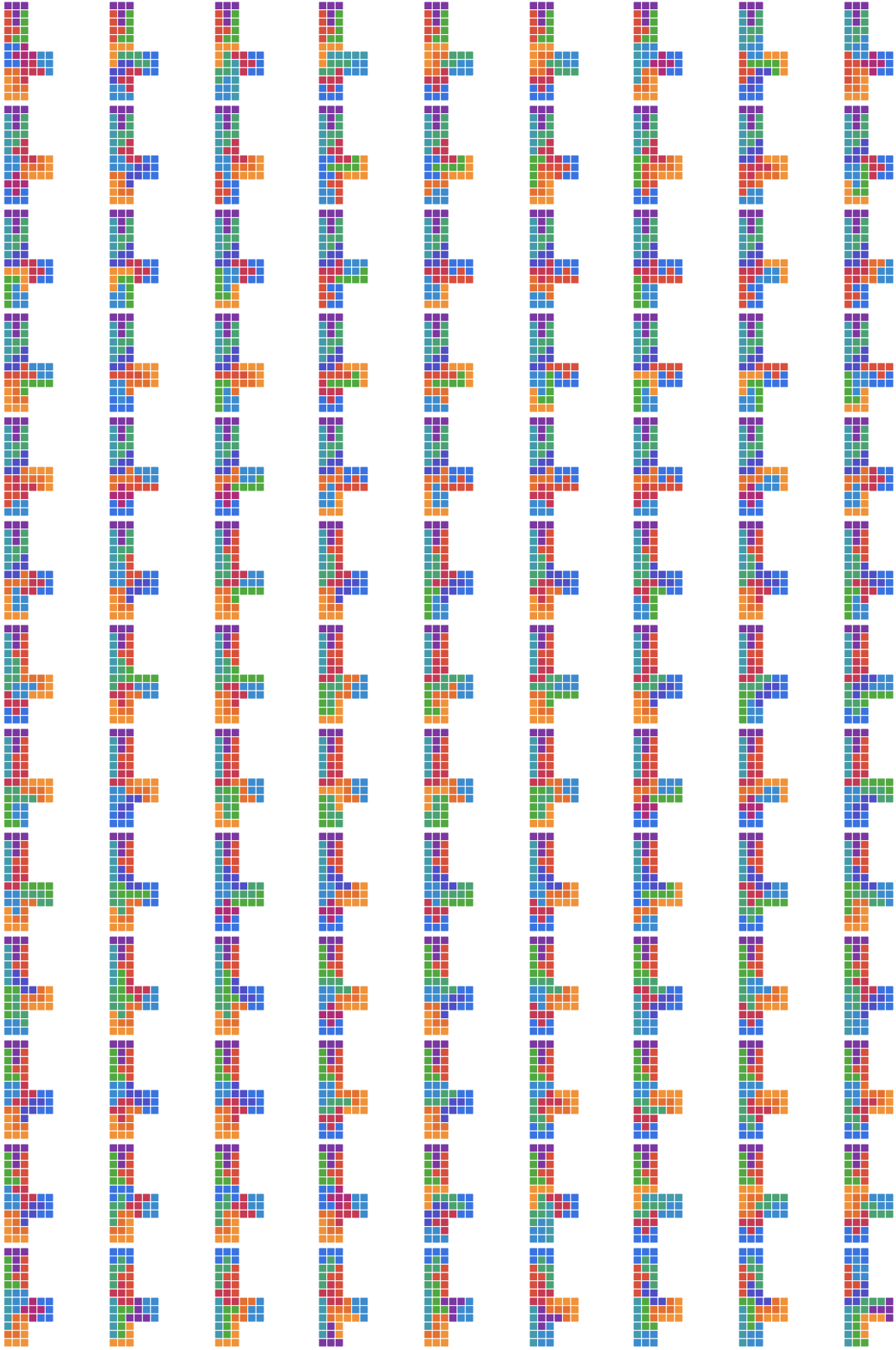


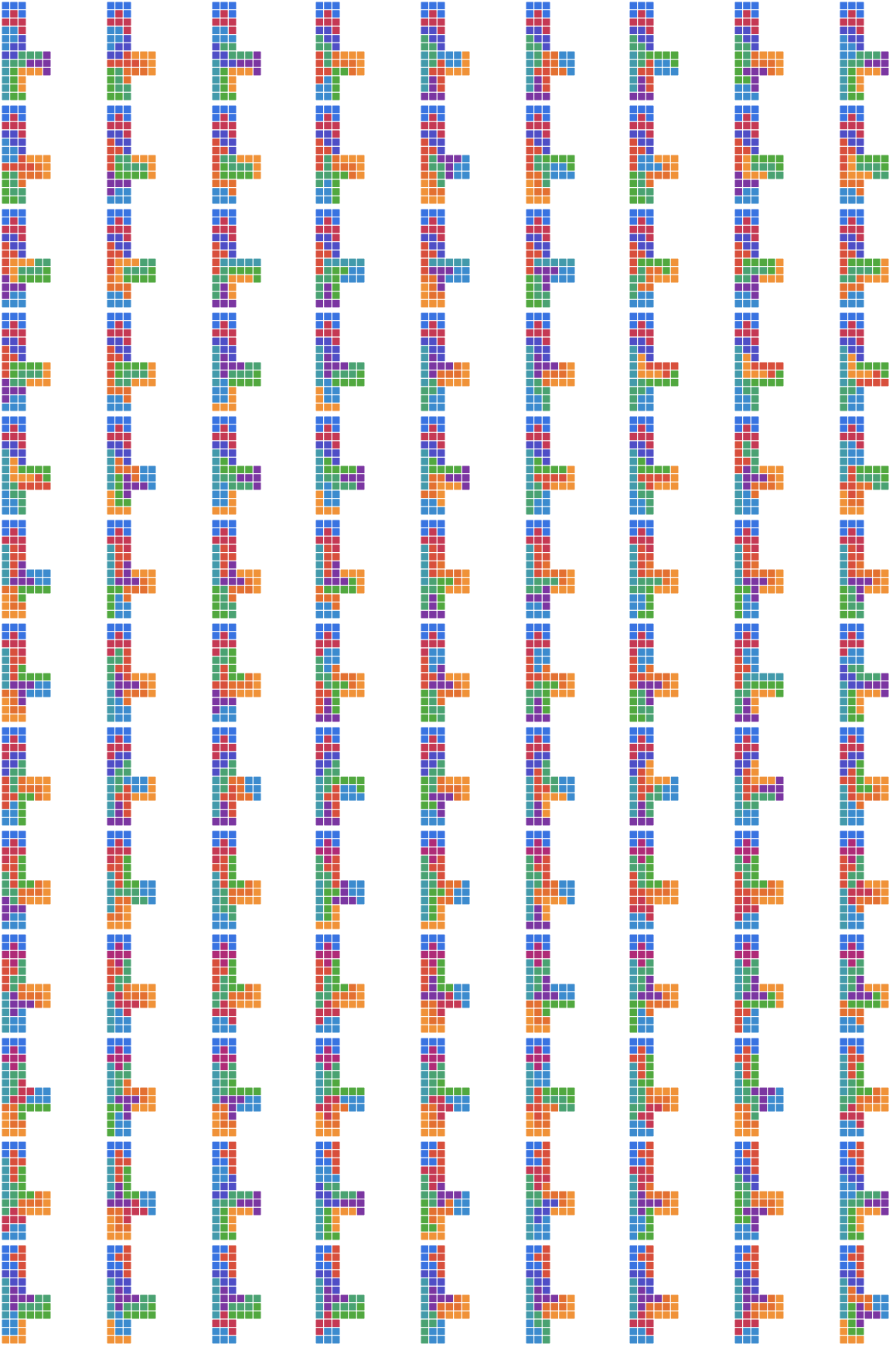
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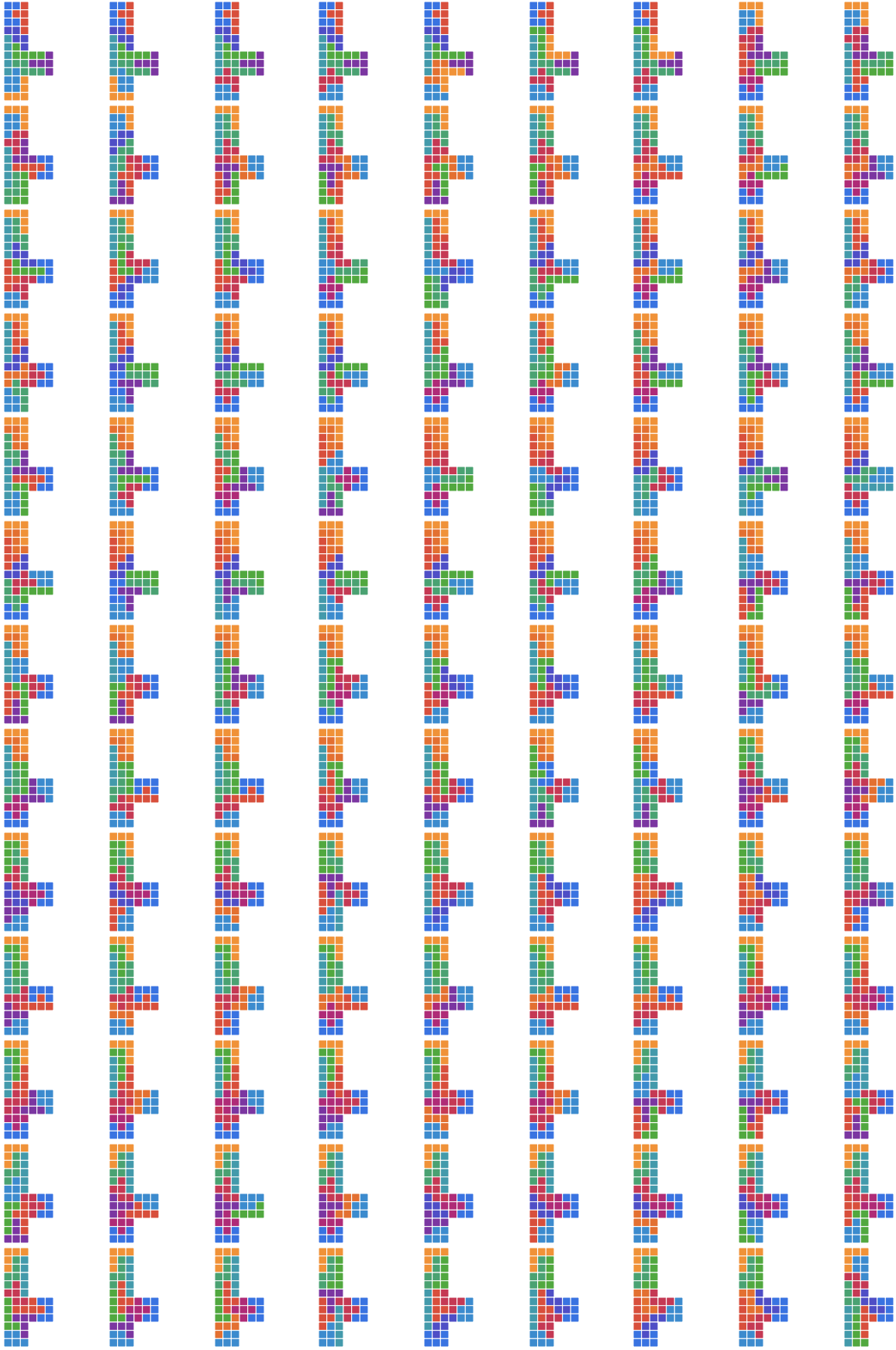
809 Solutions

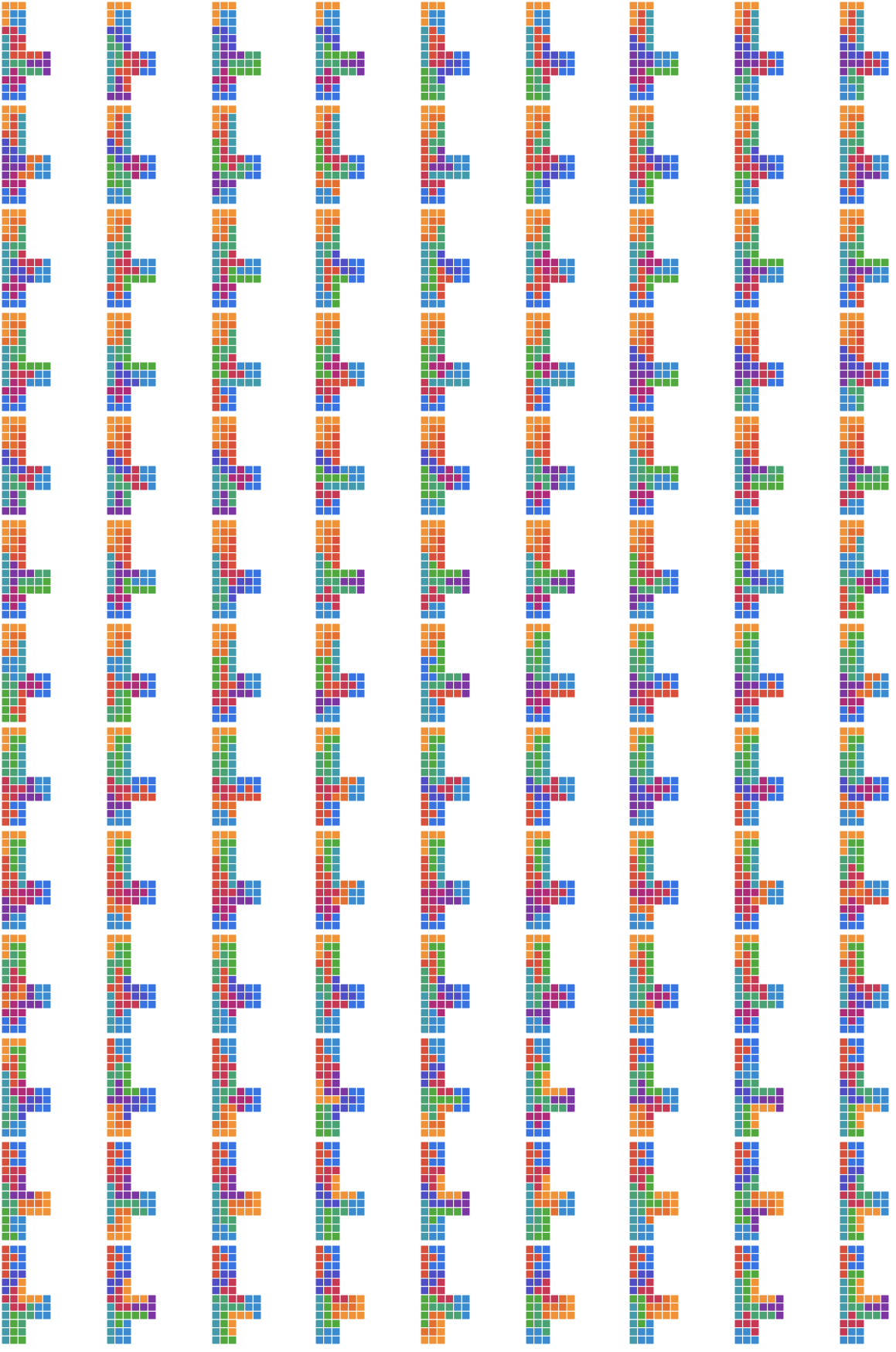


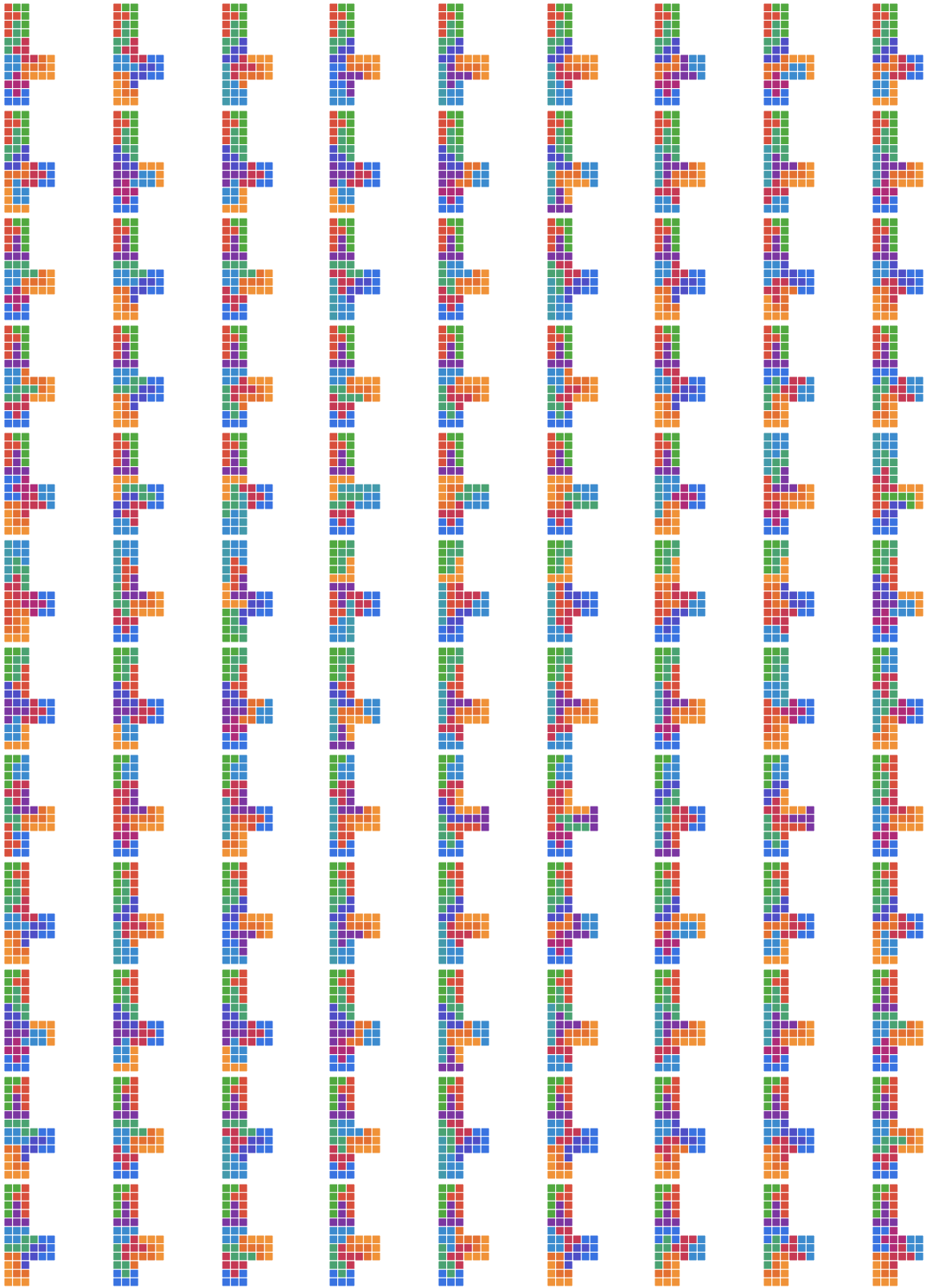


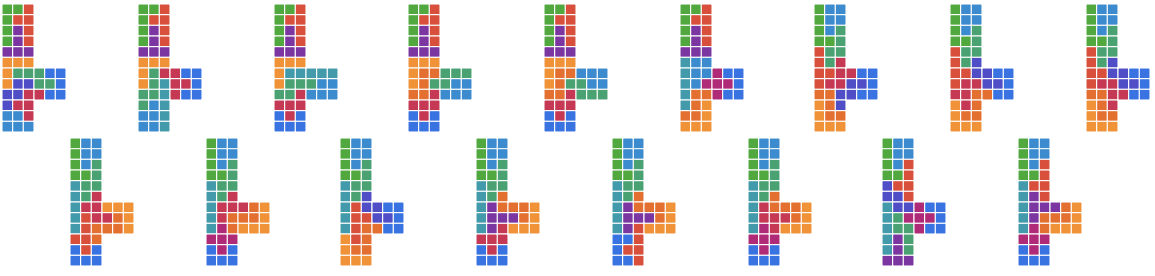


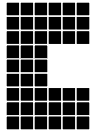






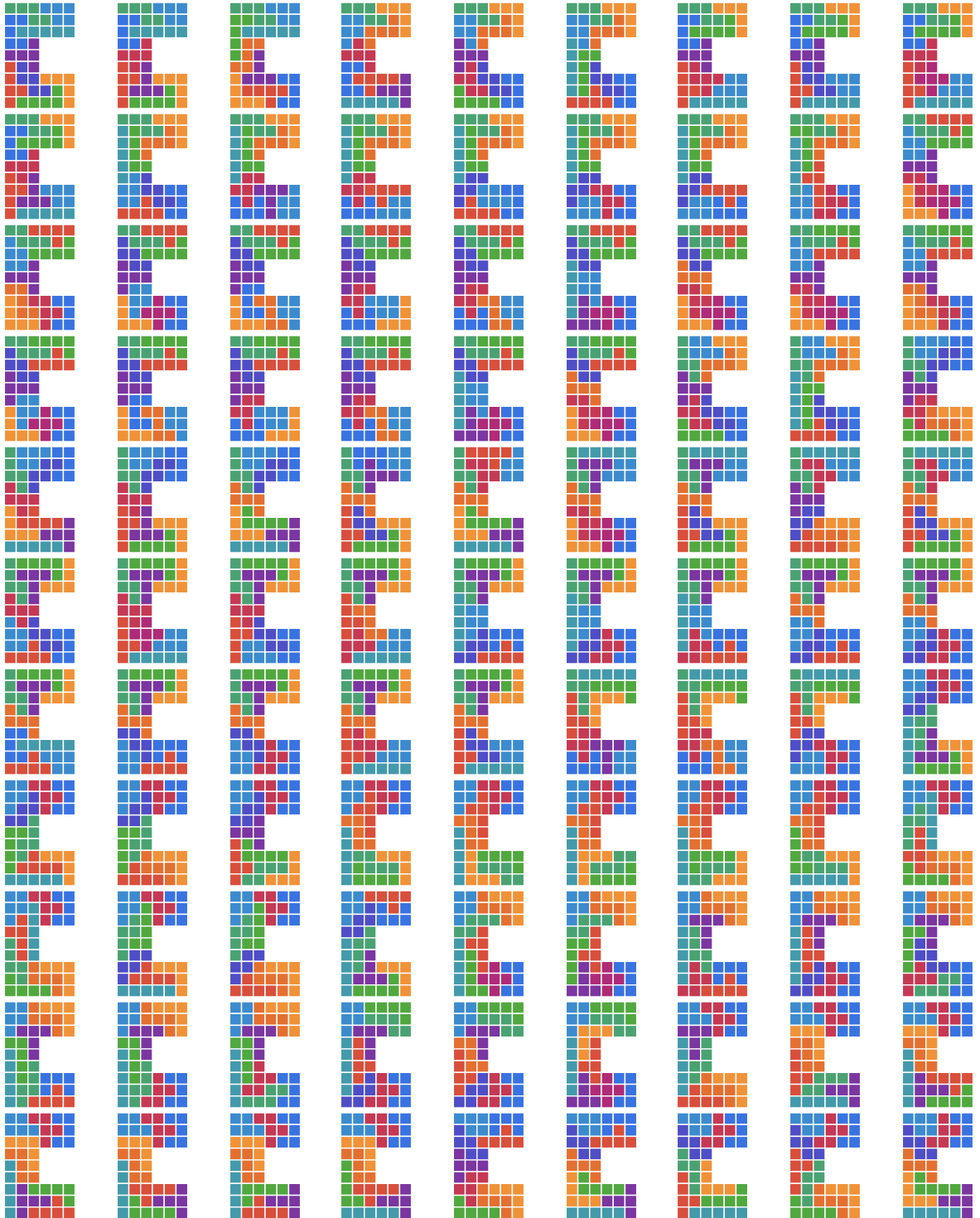


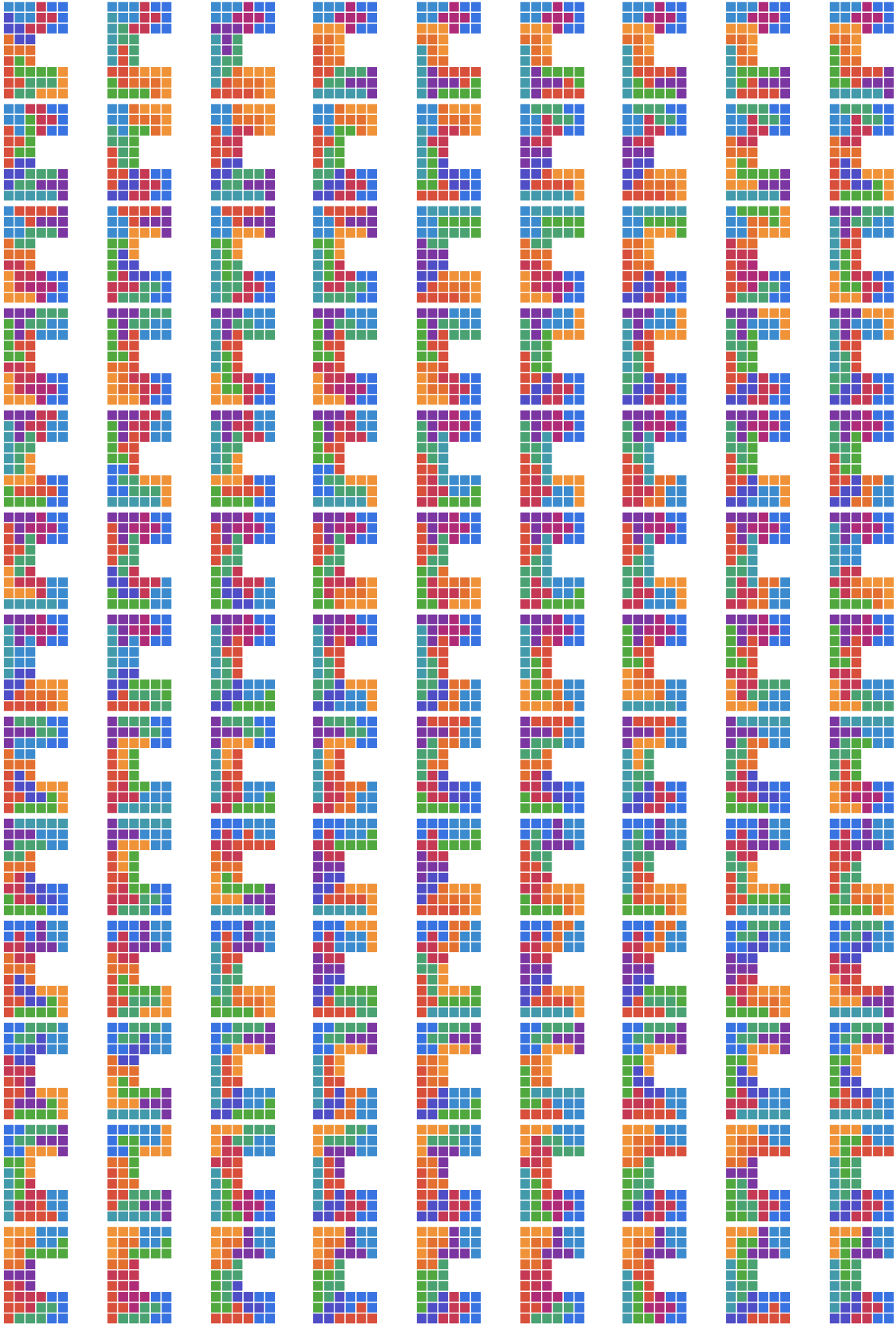


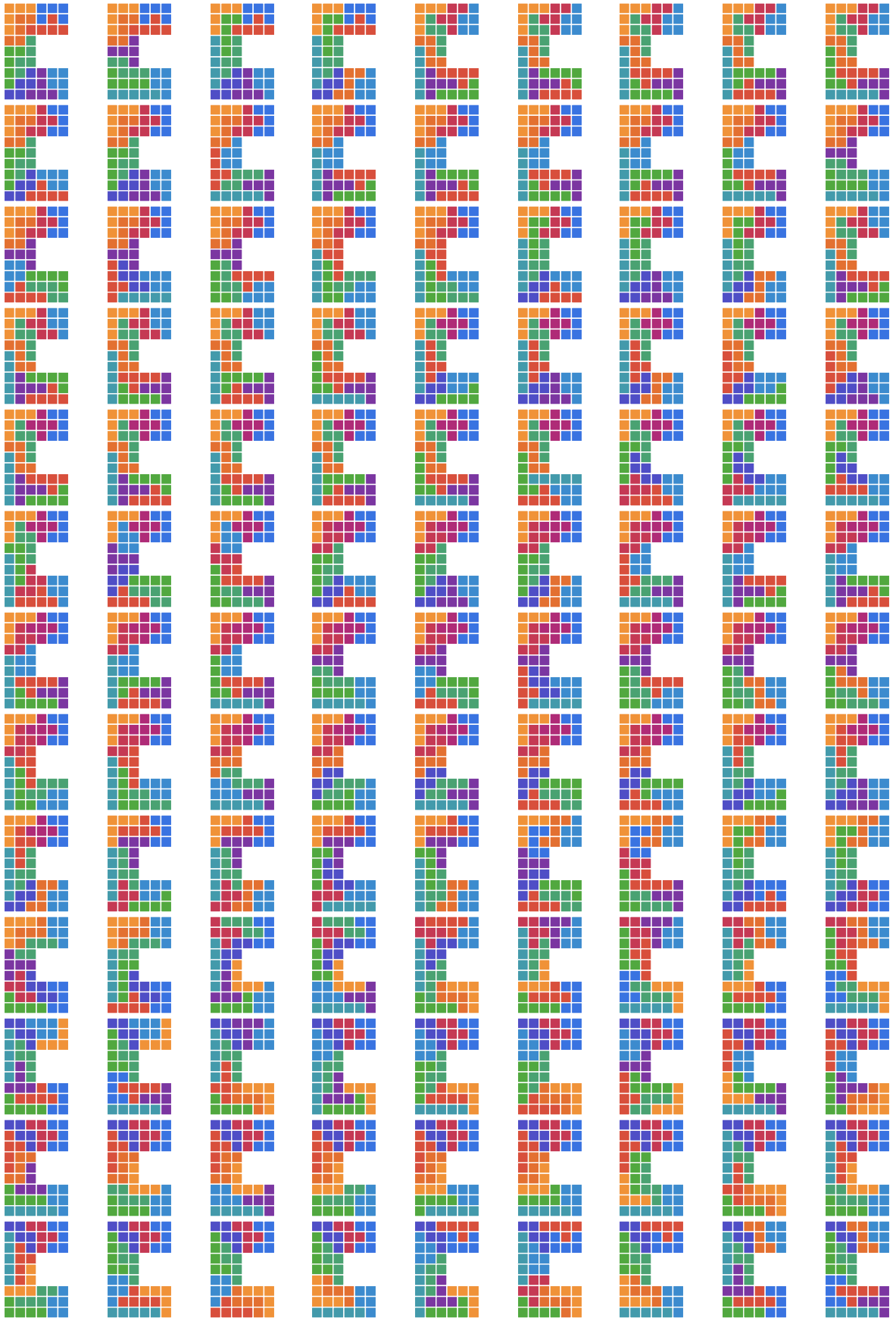


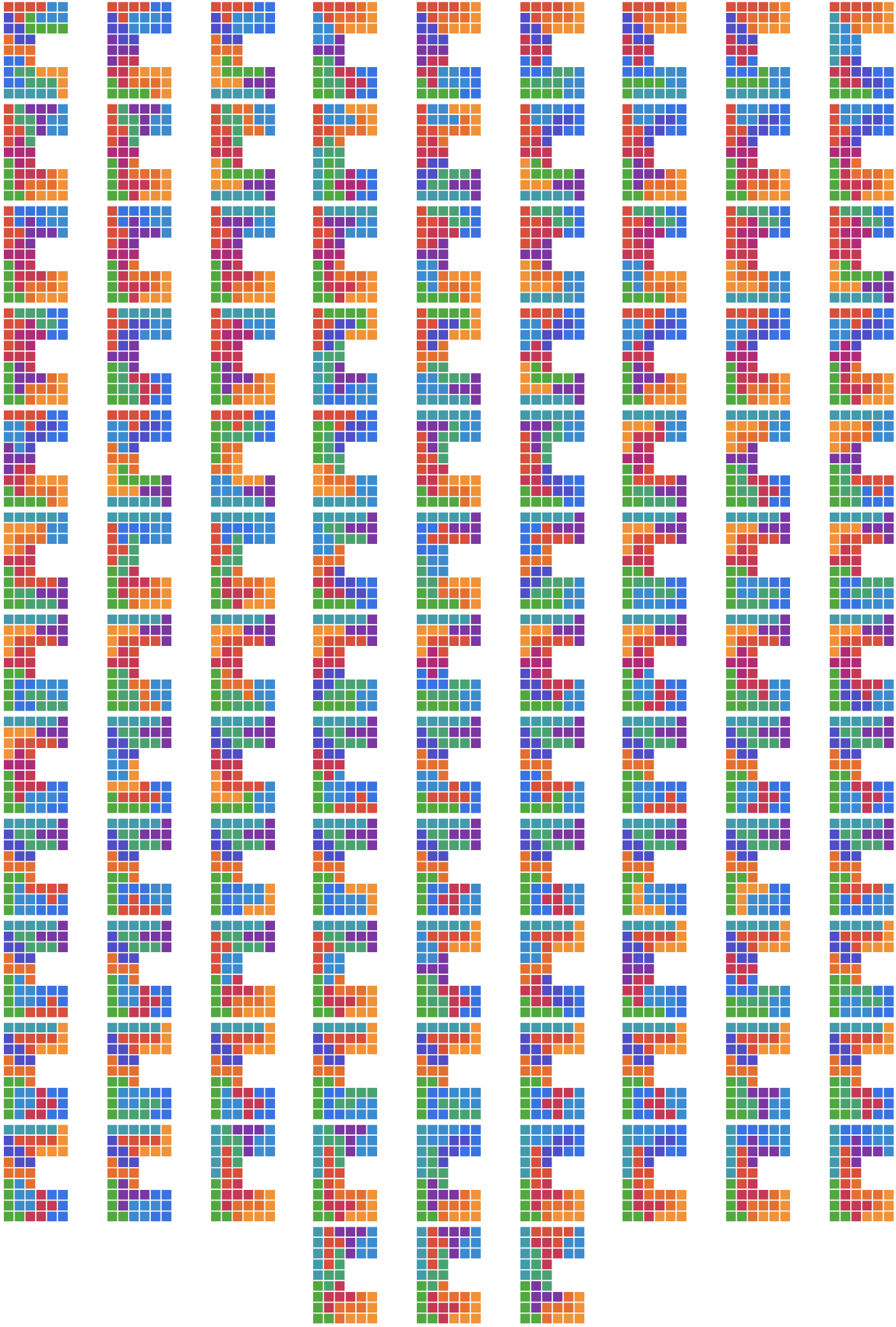
triple-u

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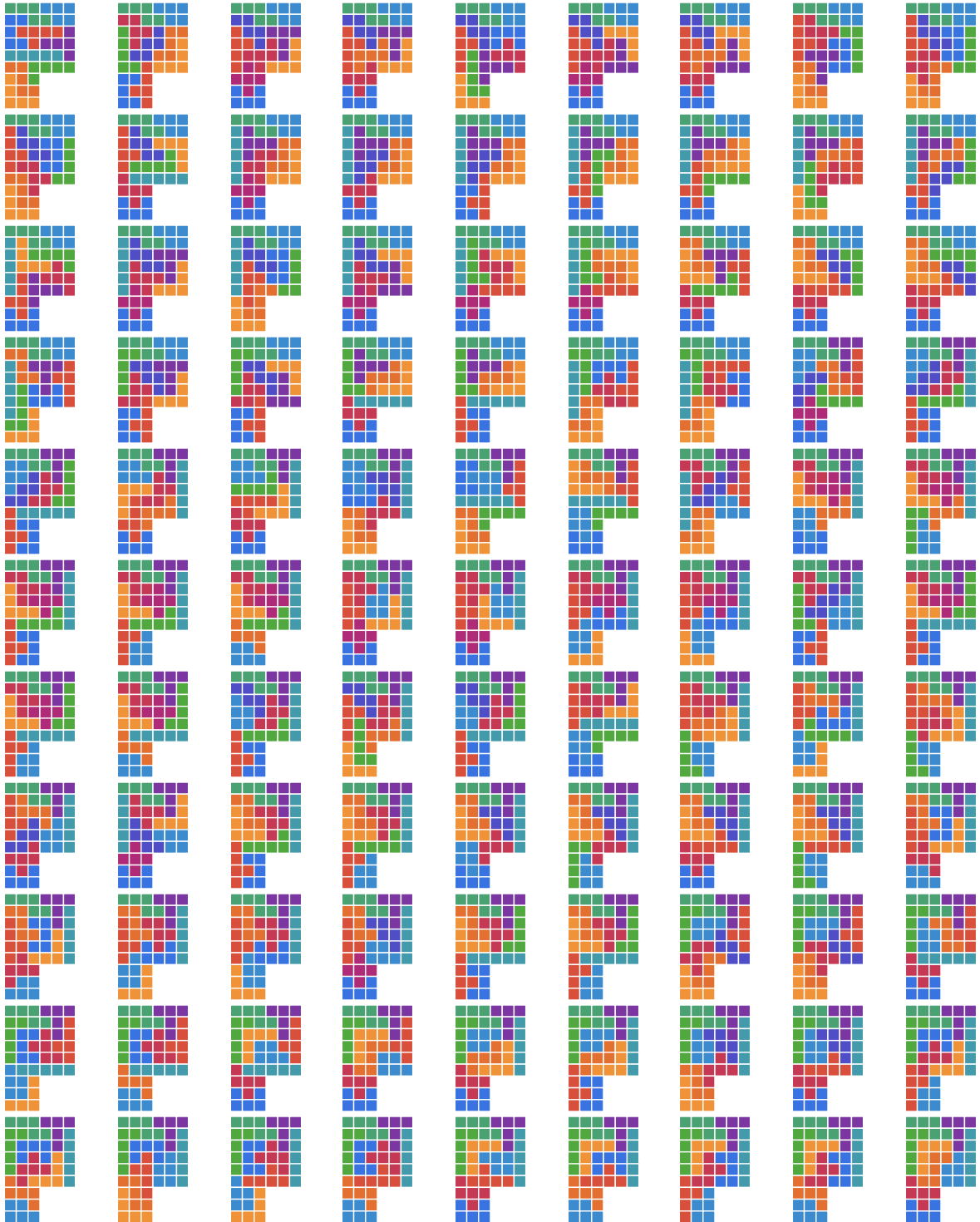


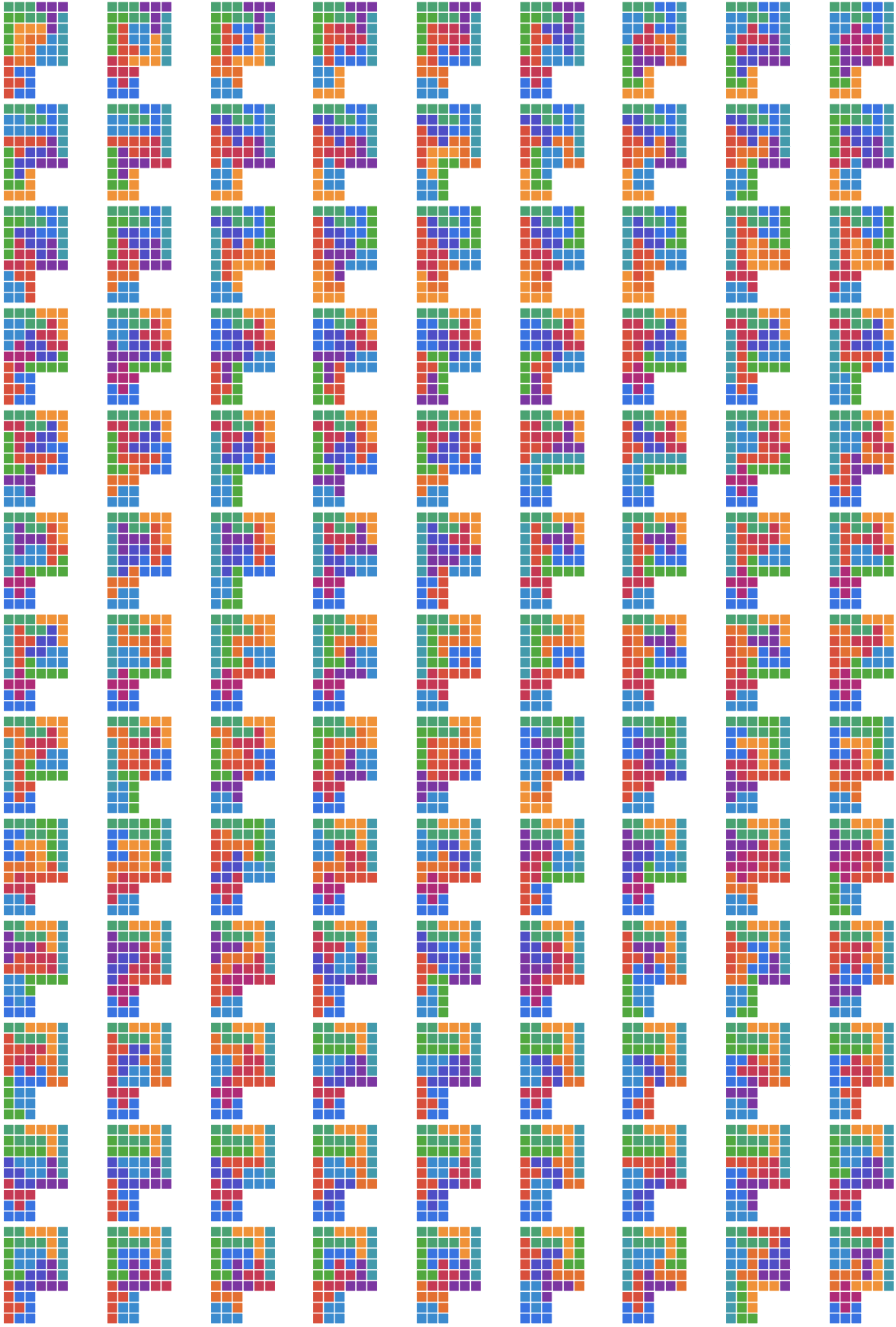


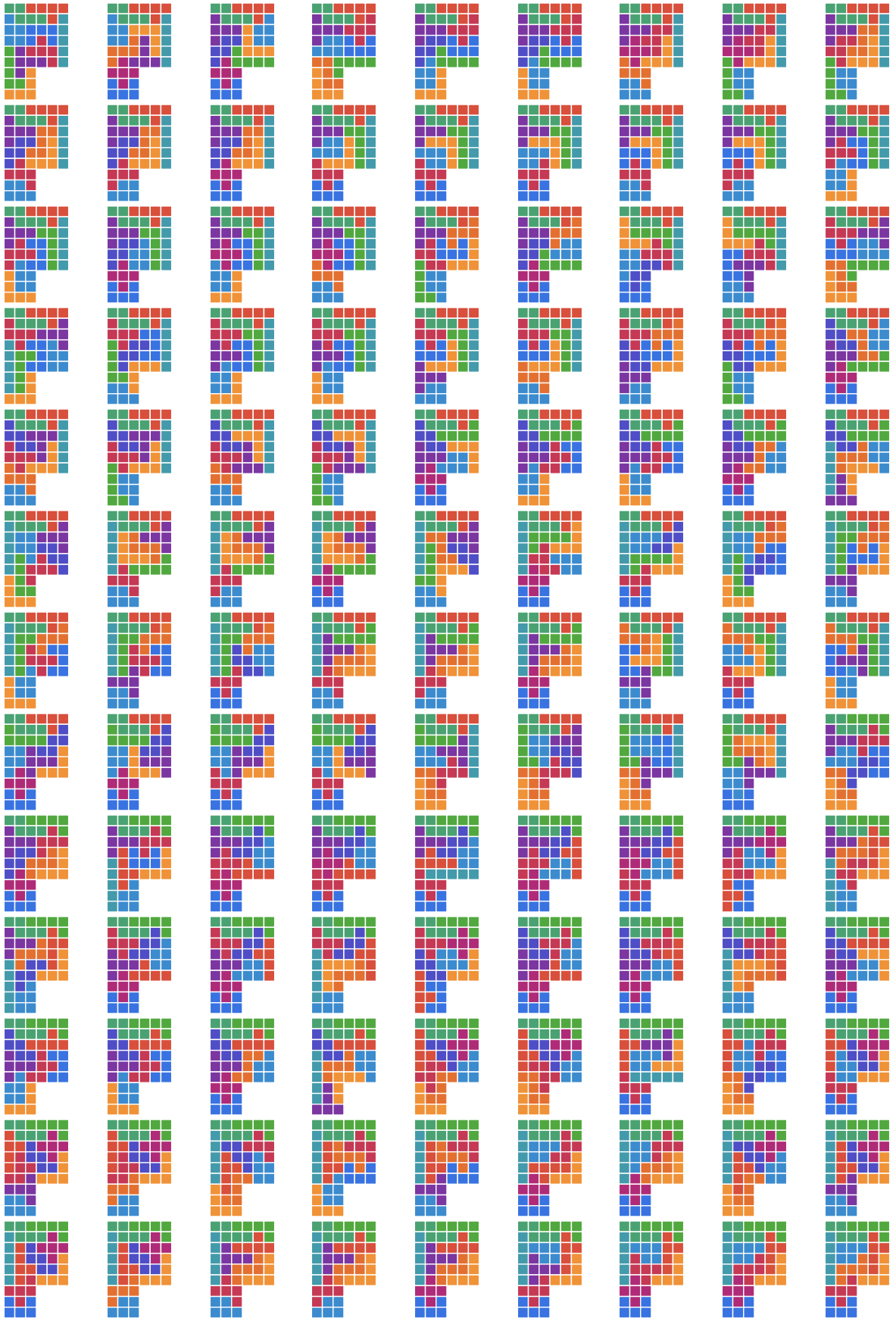


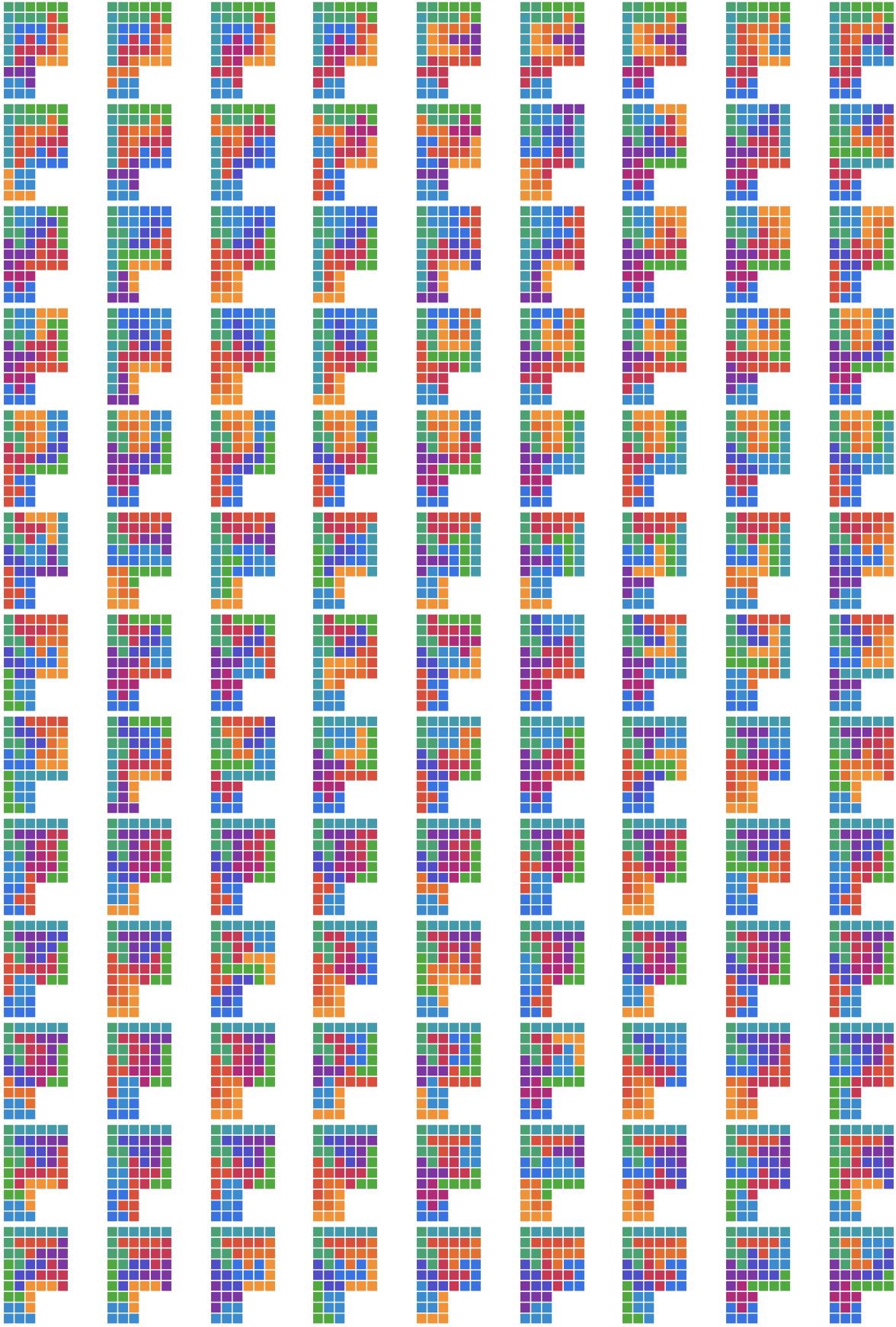
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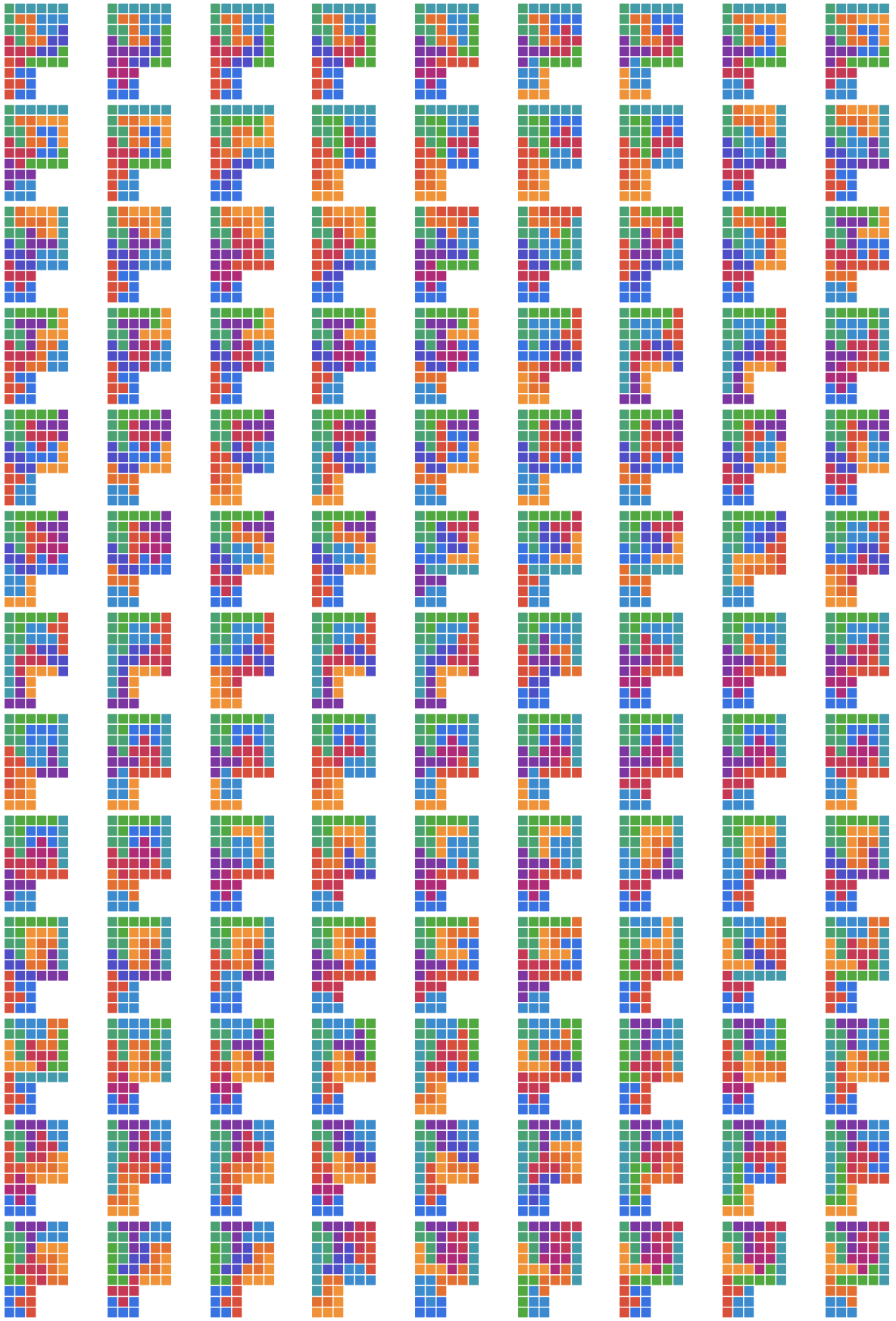
9,144 Solutions

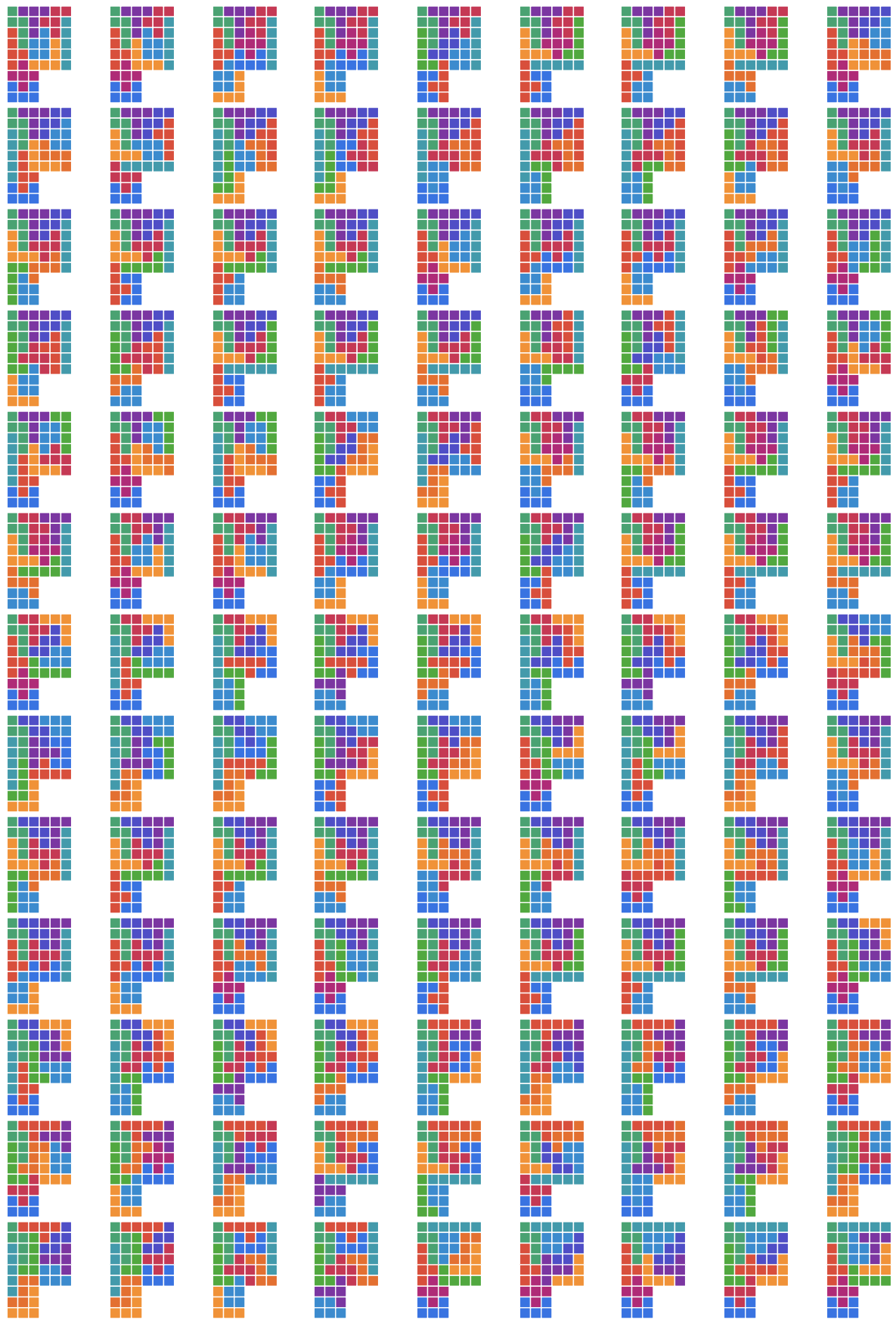


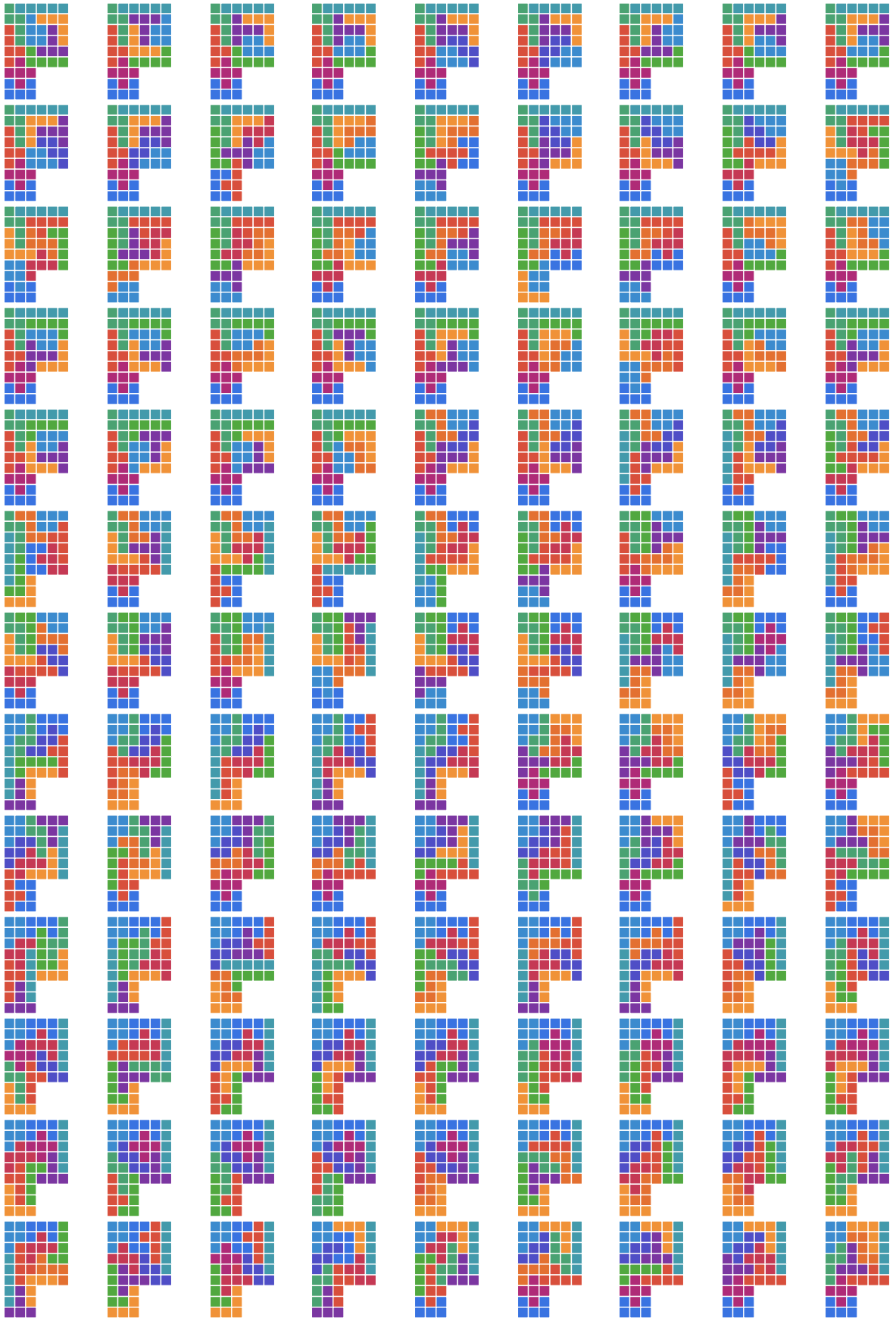


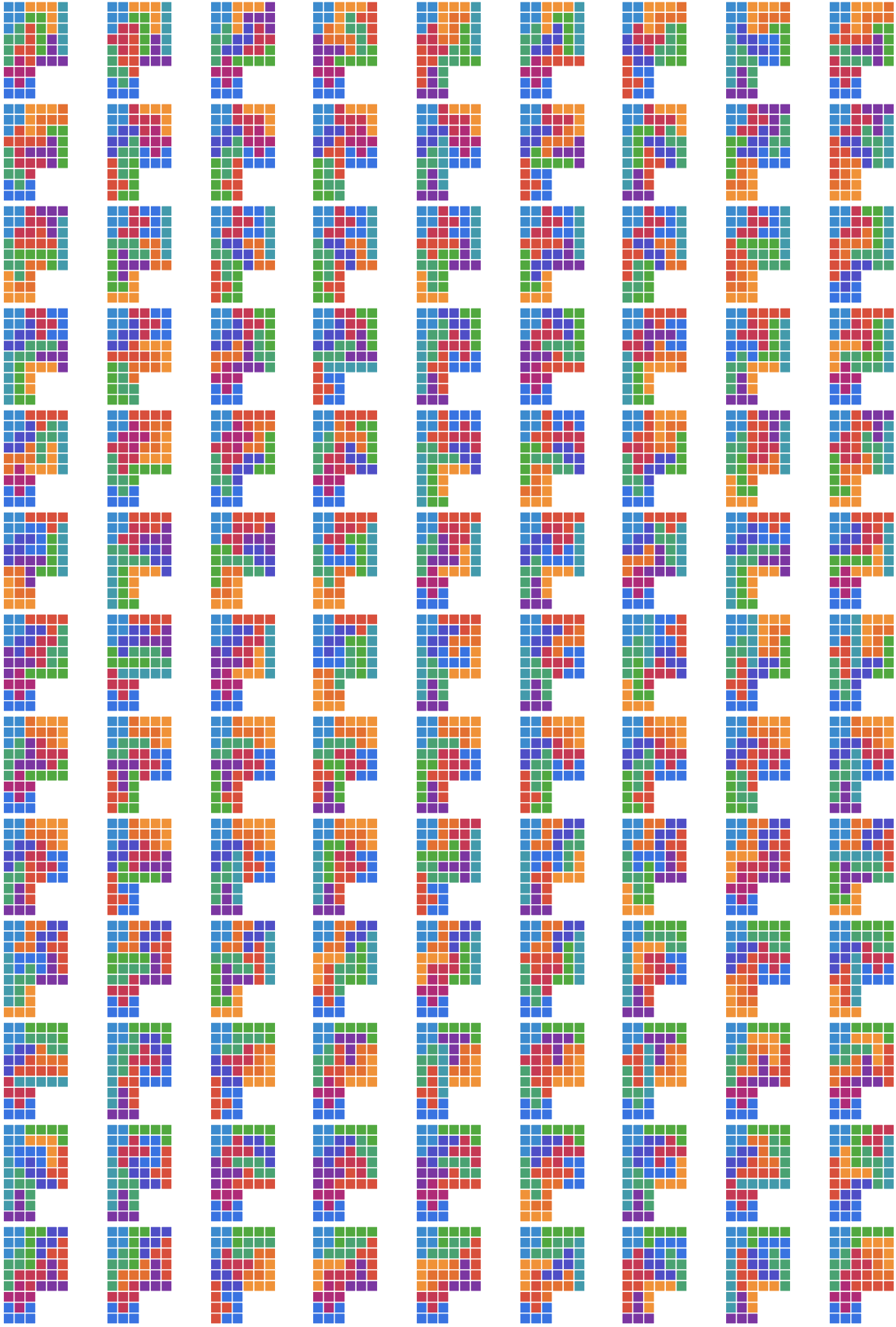


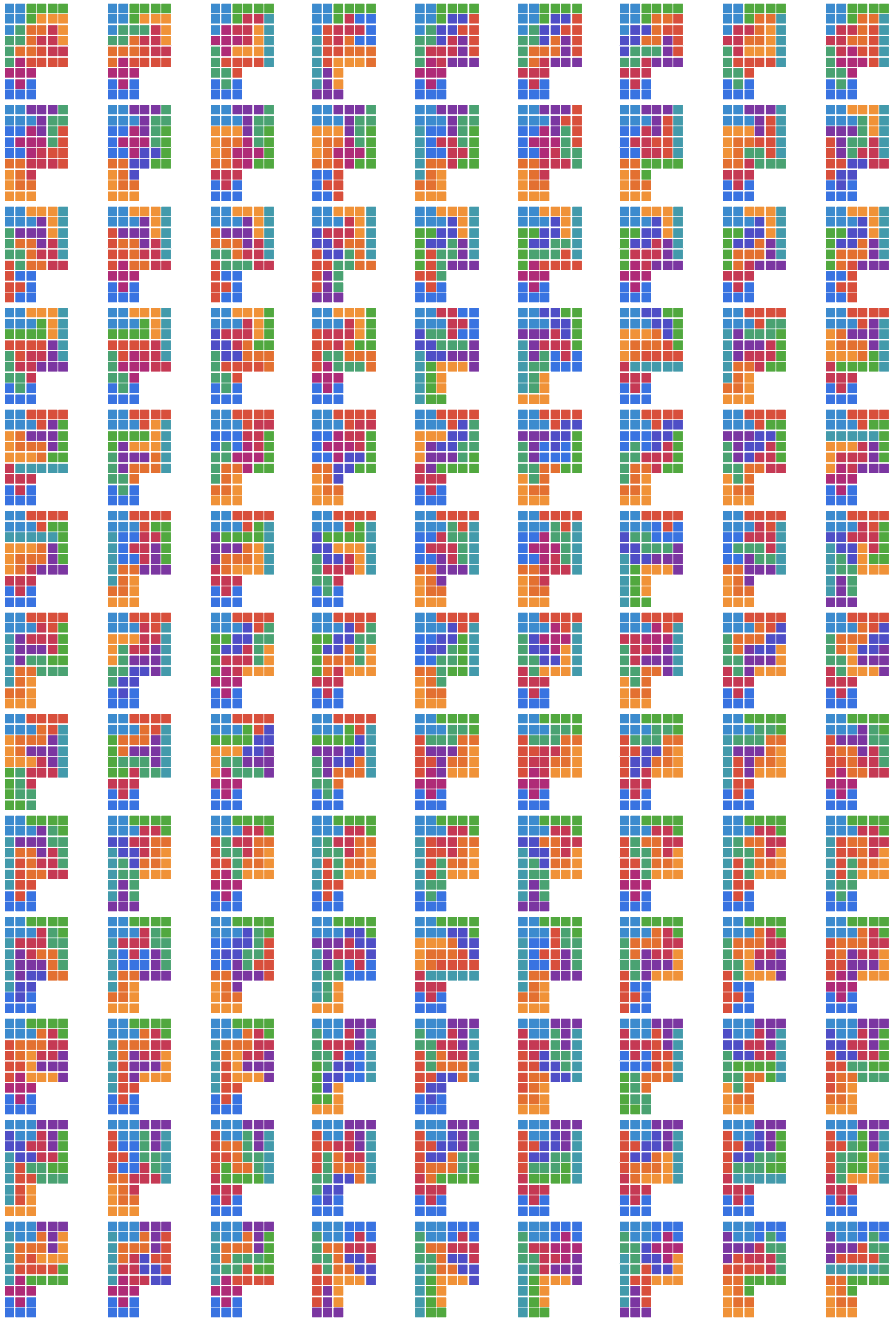


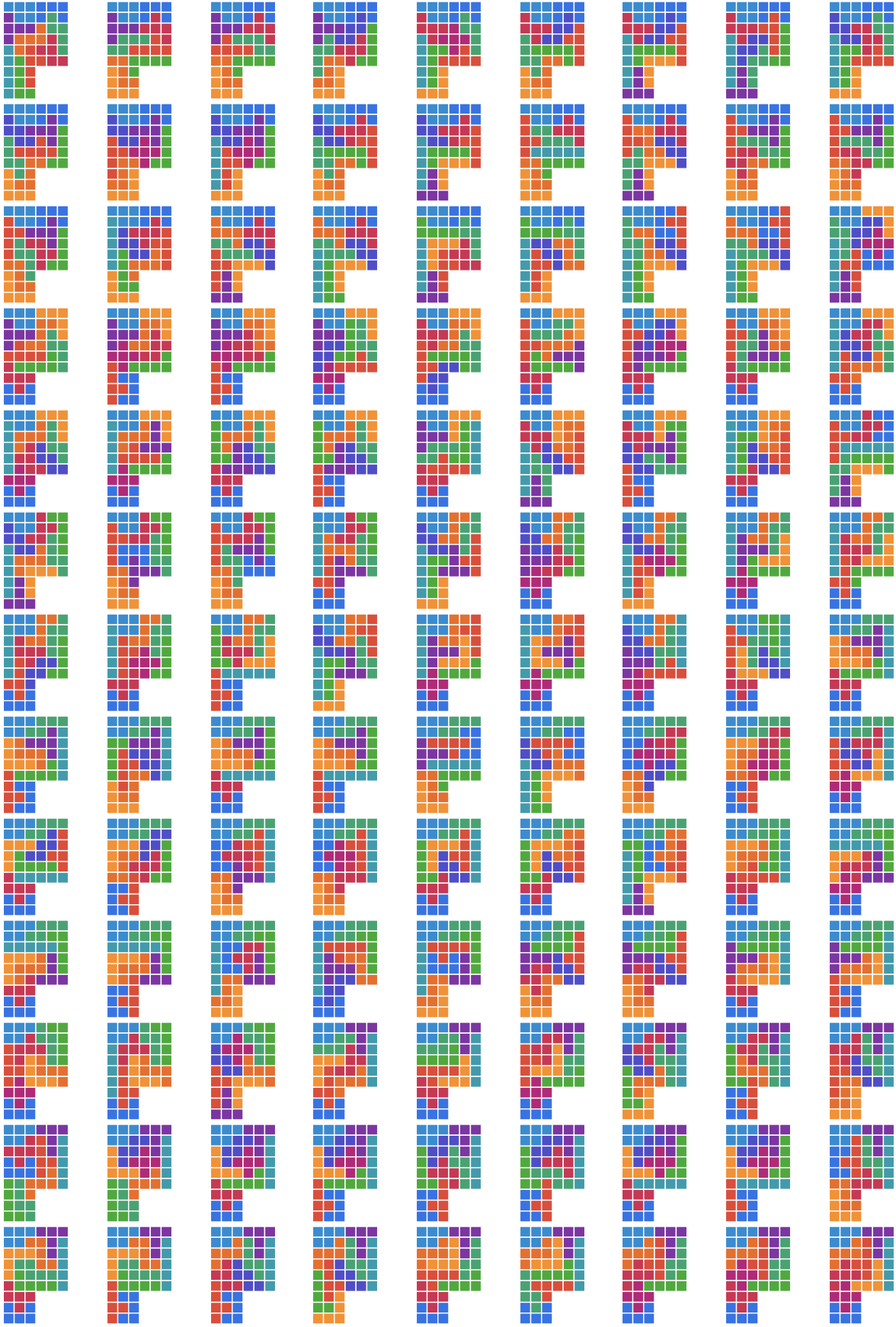


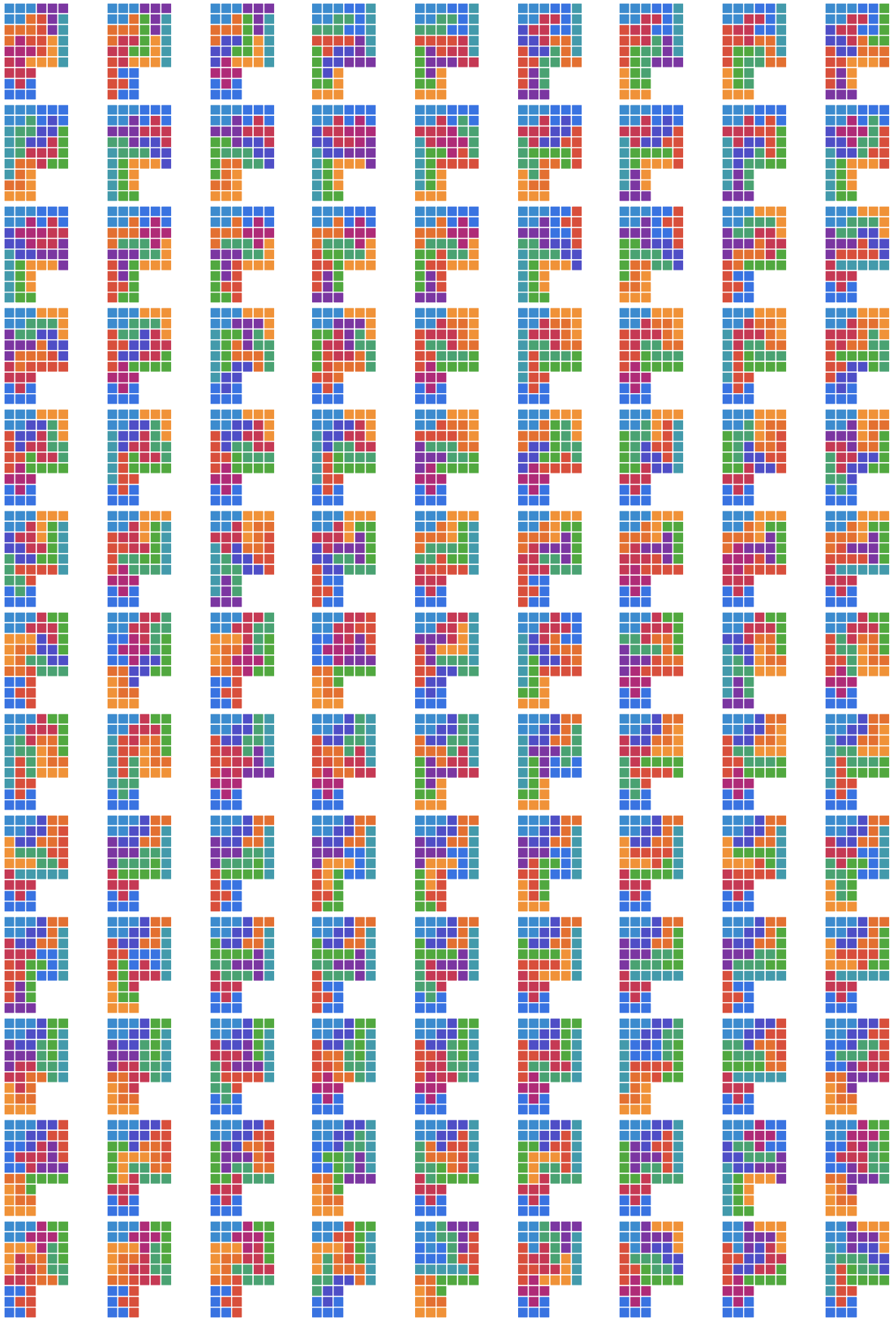


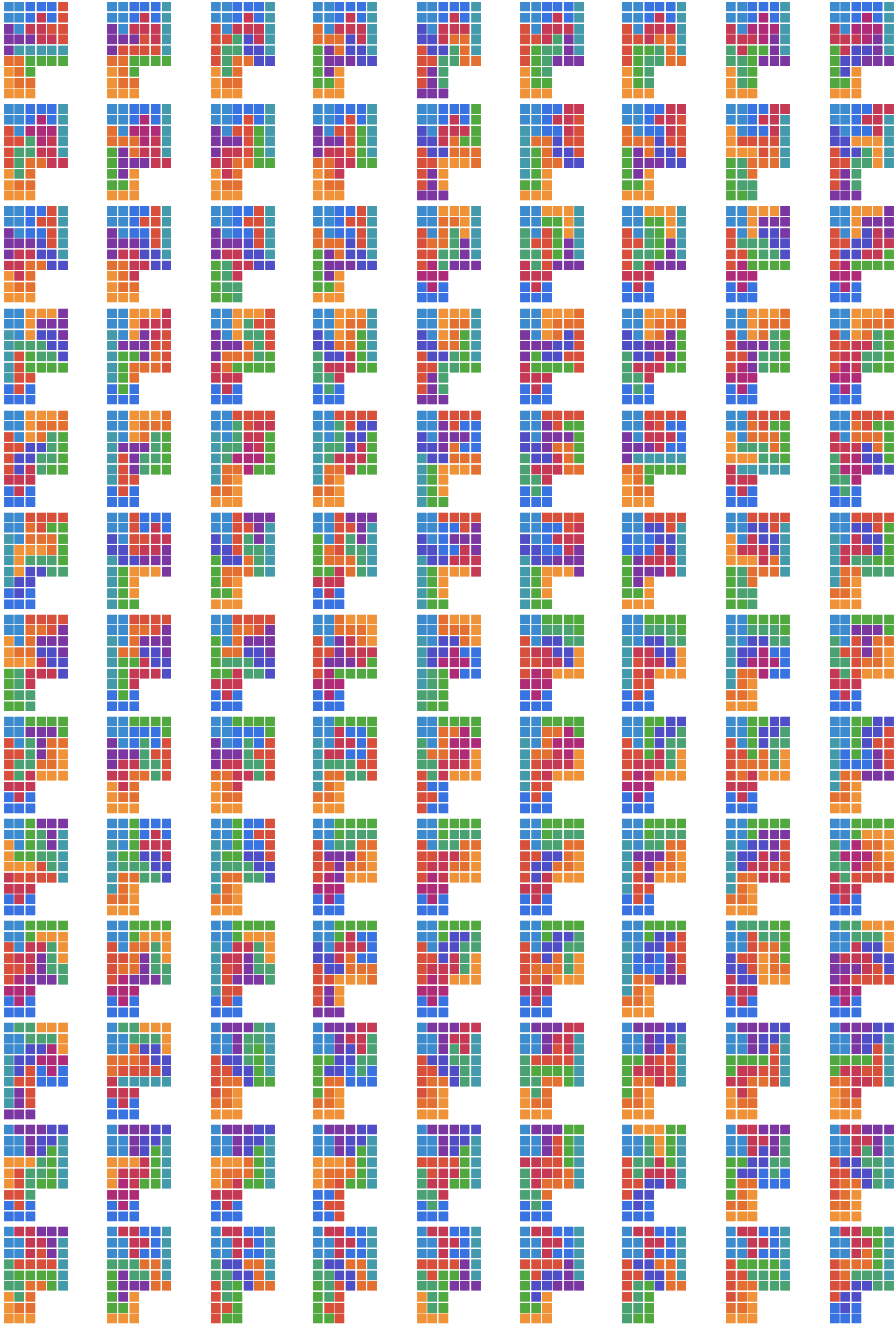


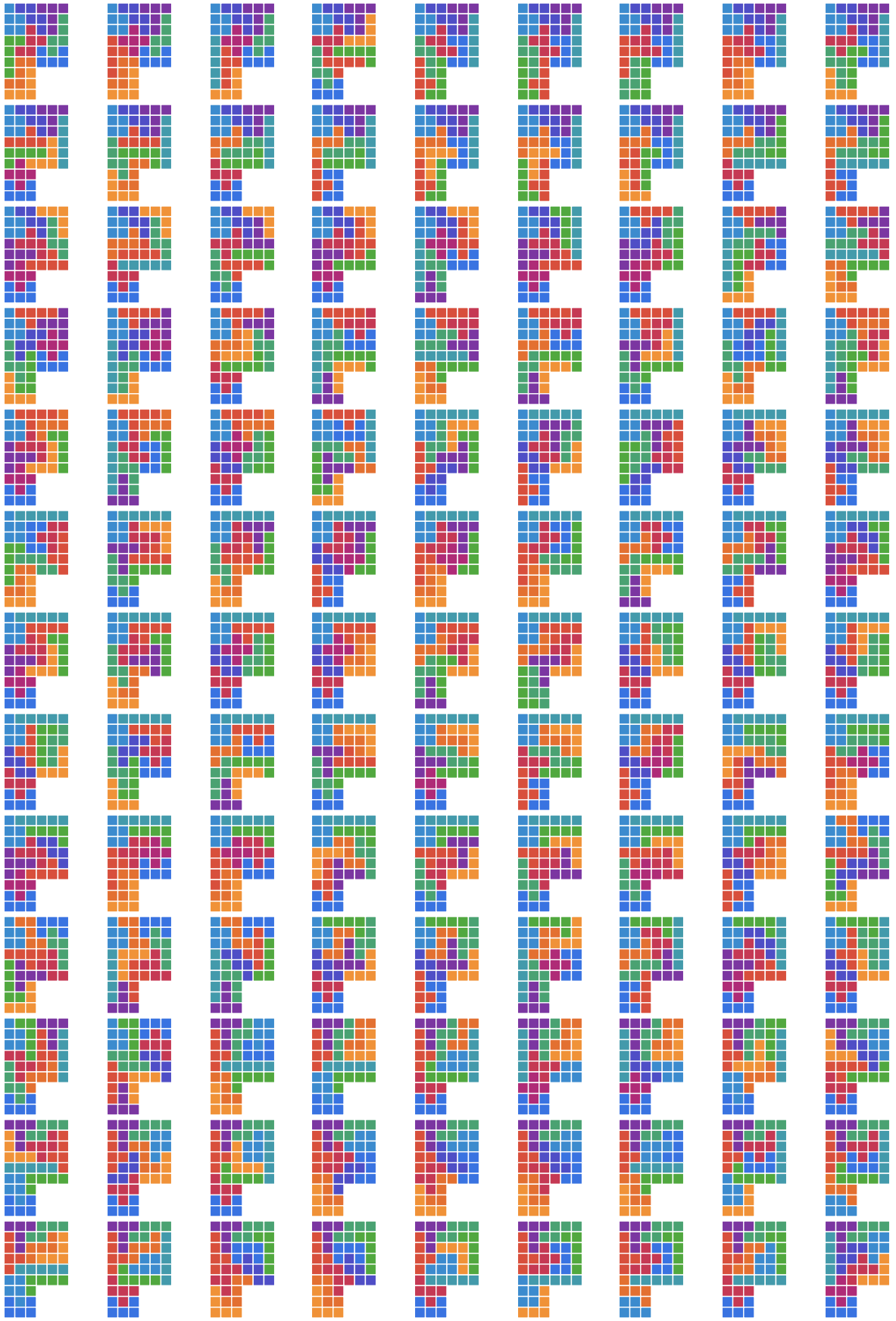


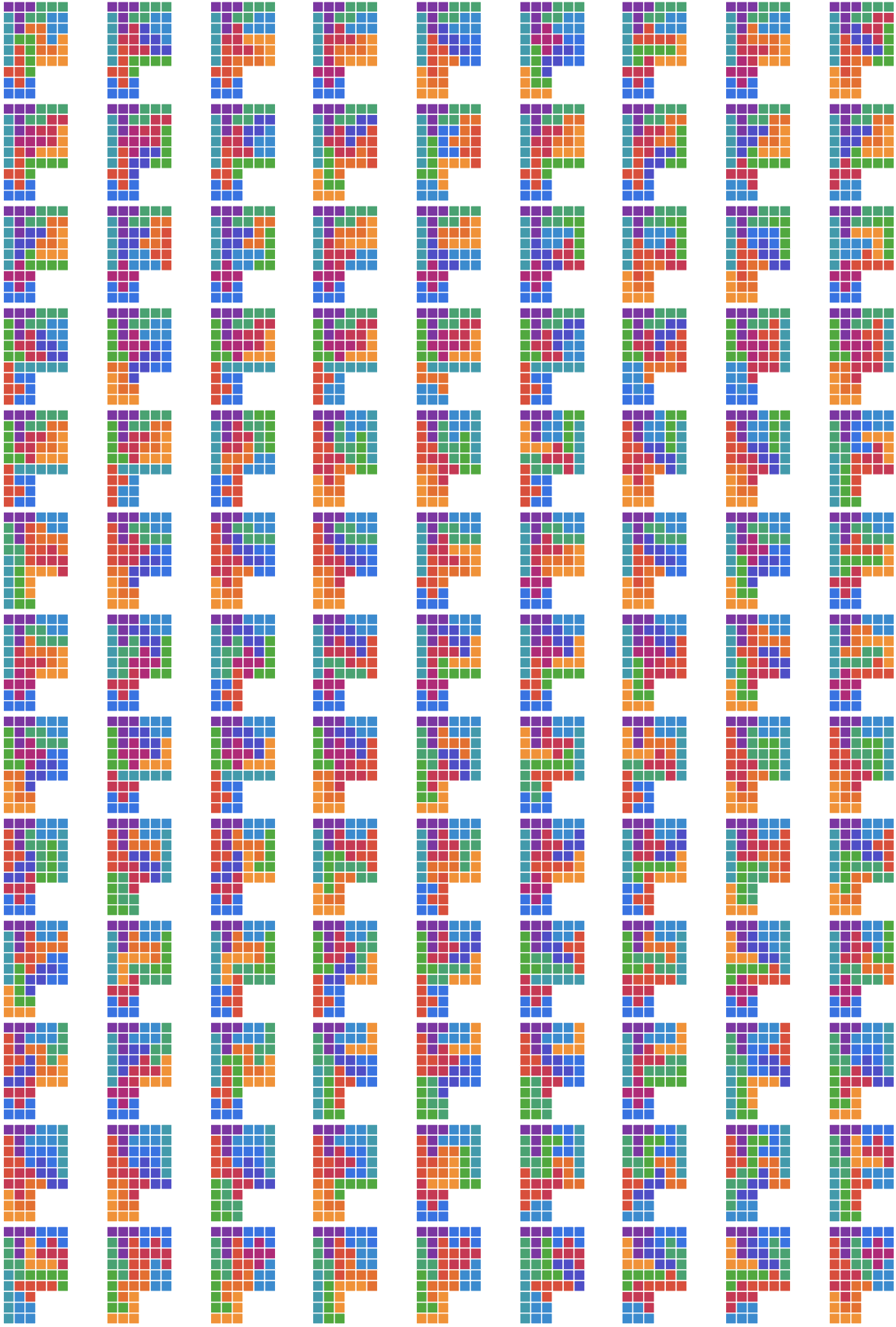


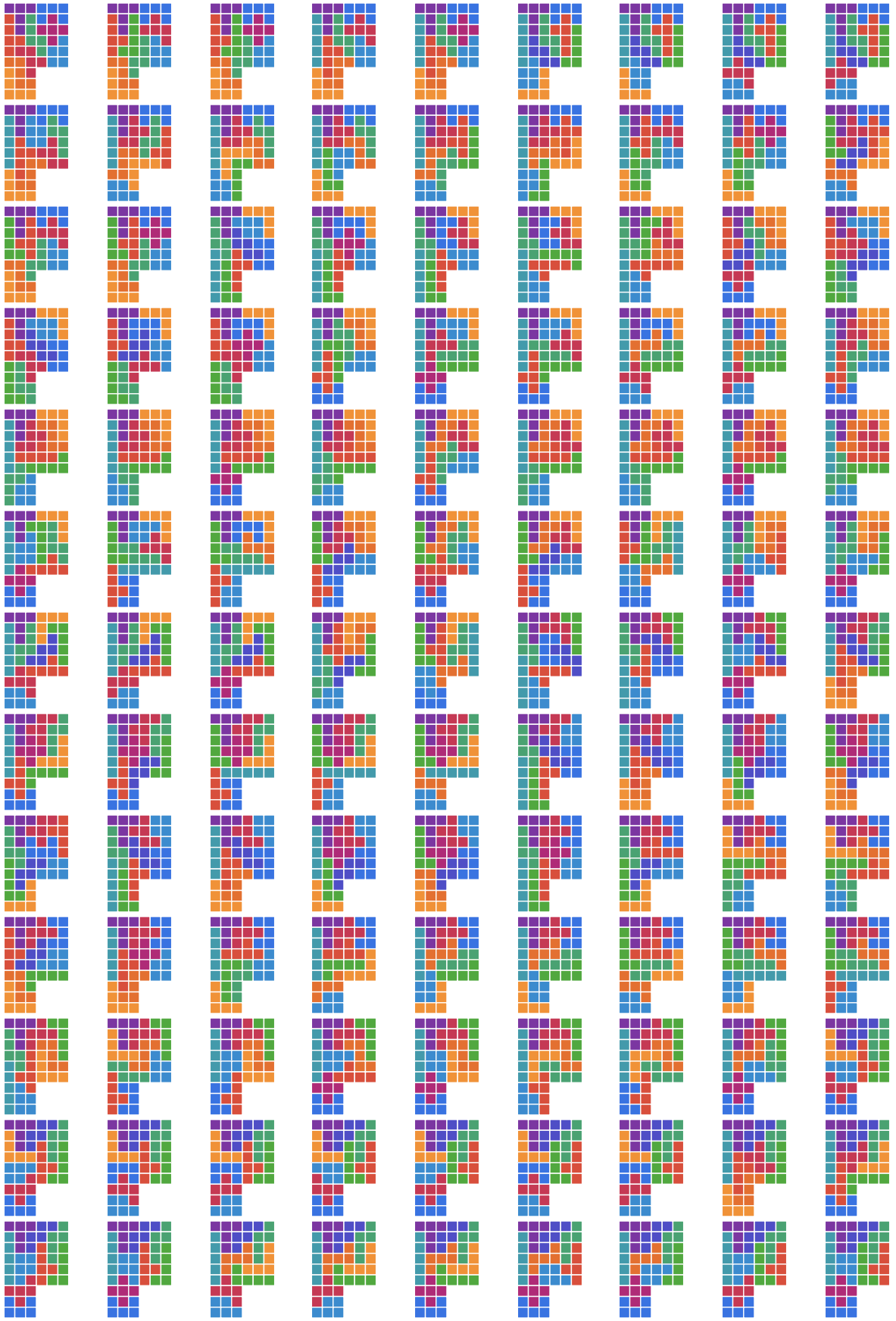


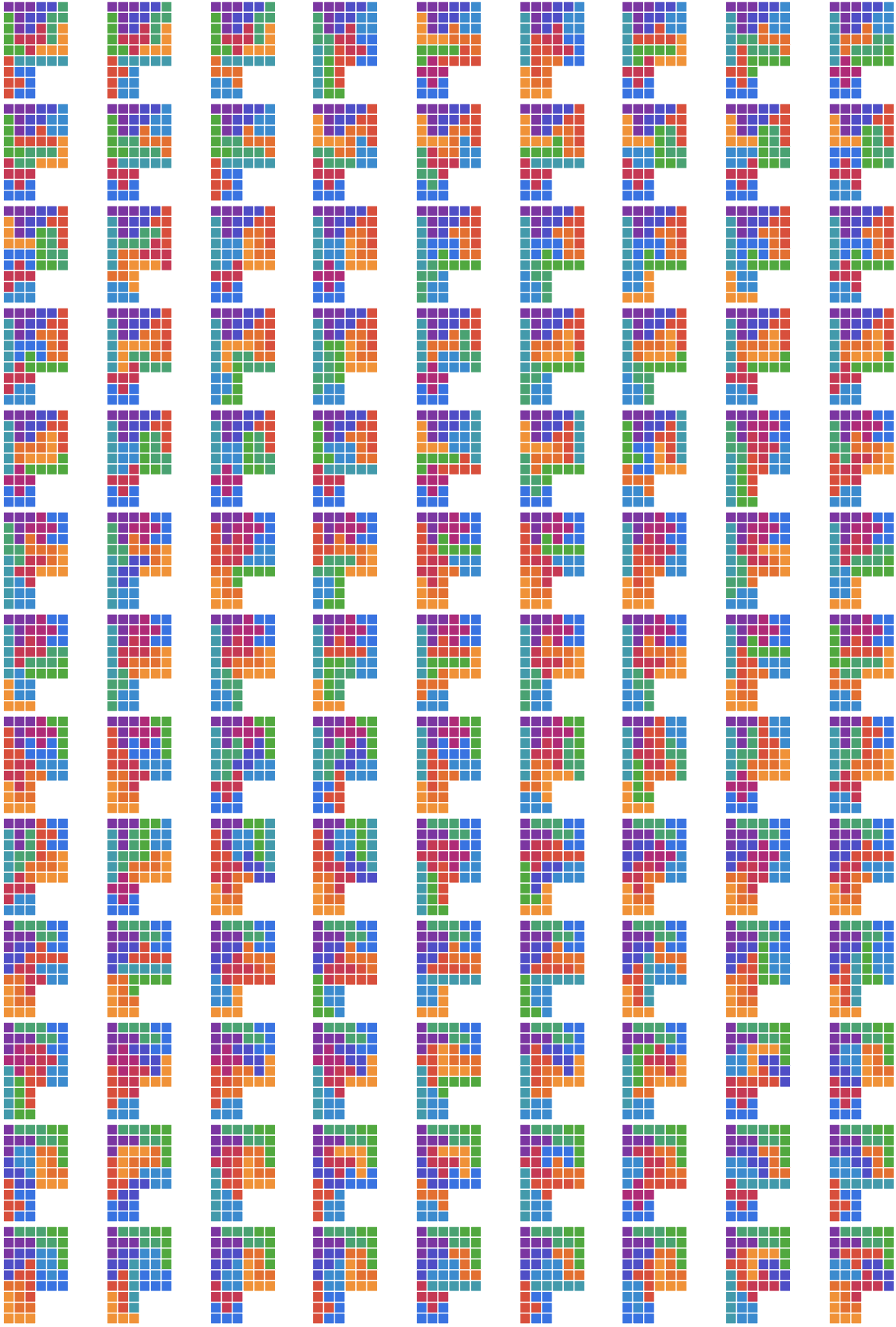


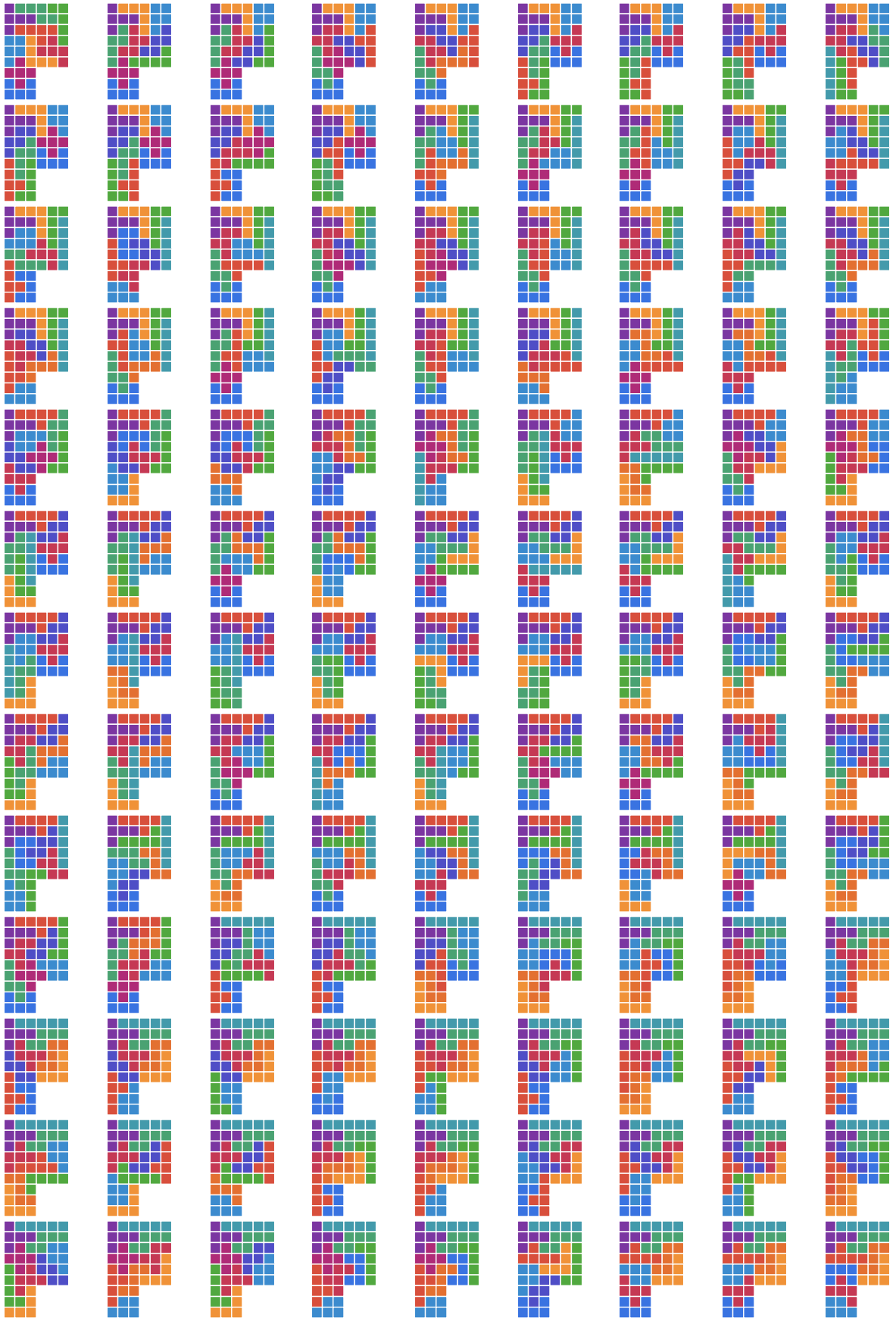


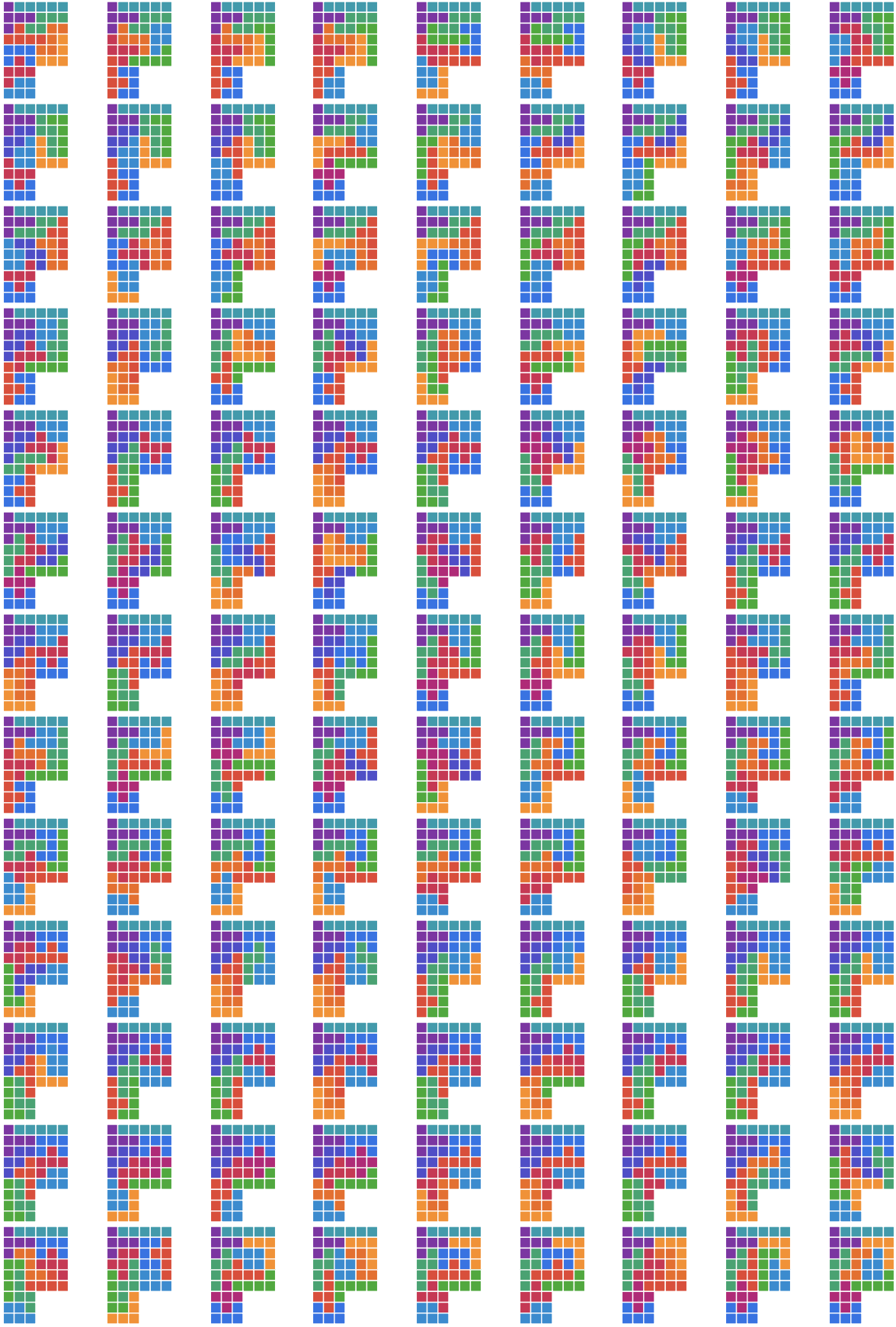


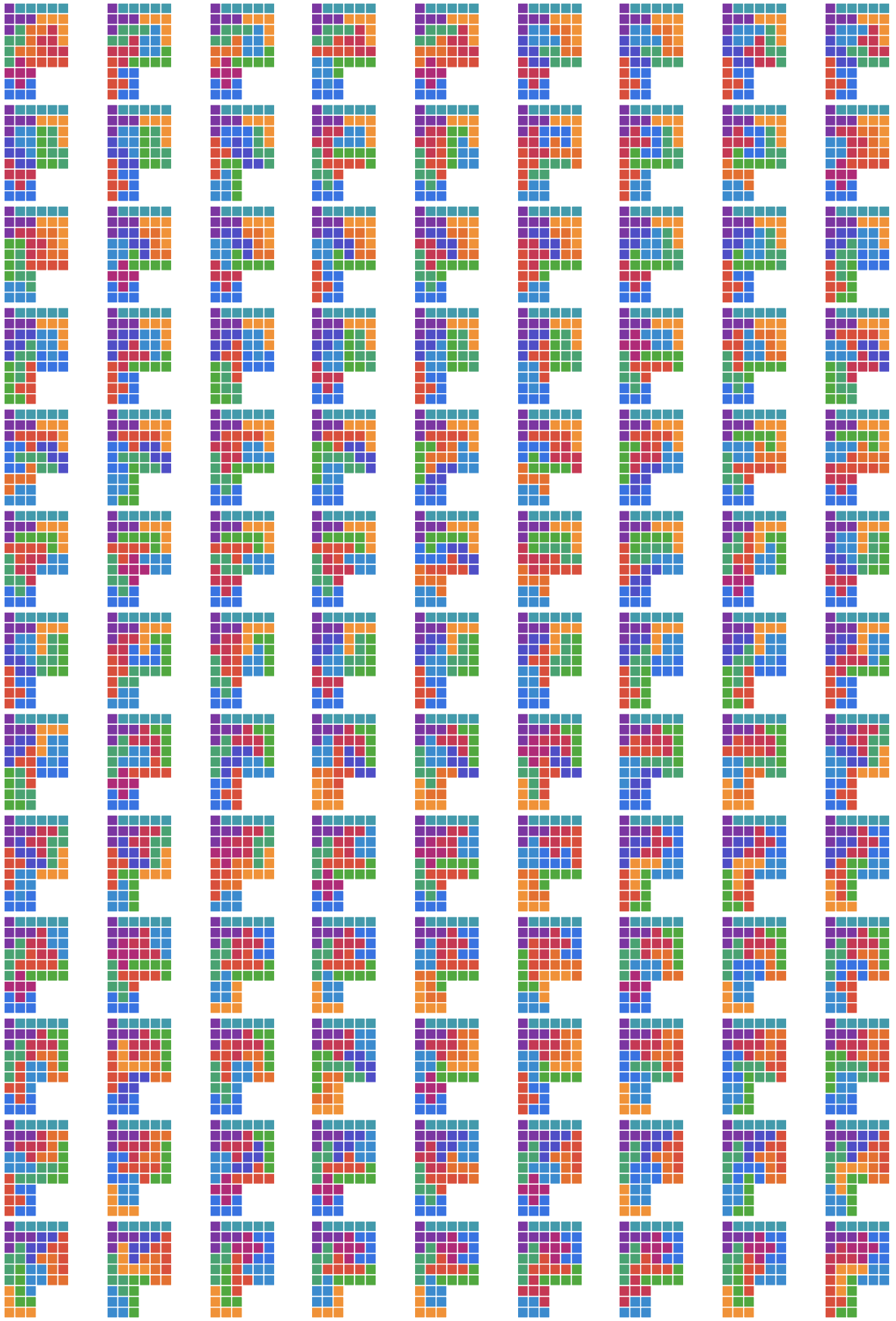


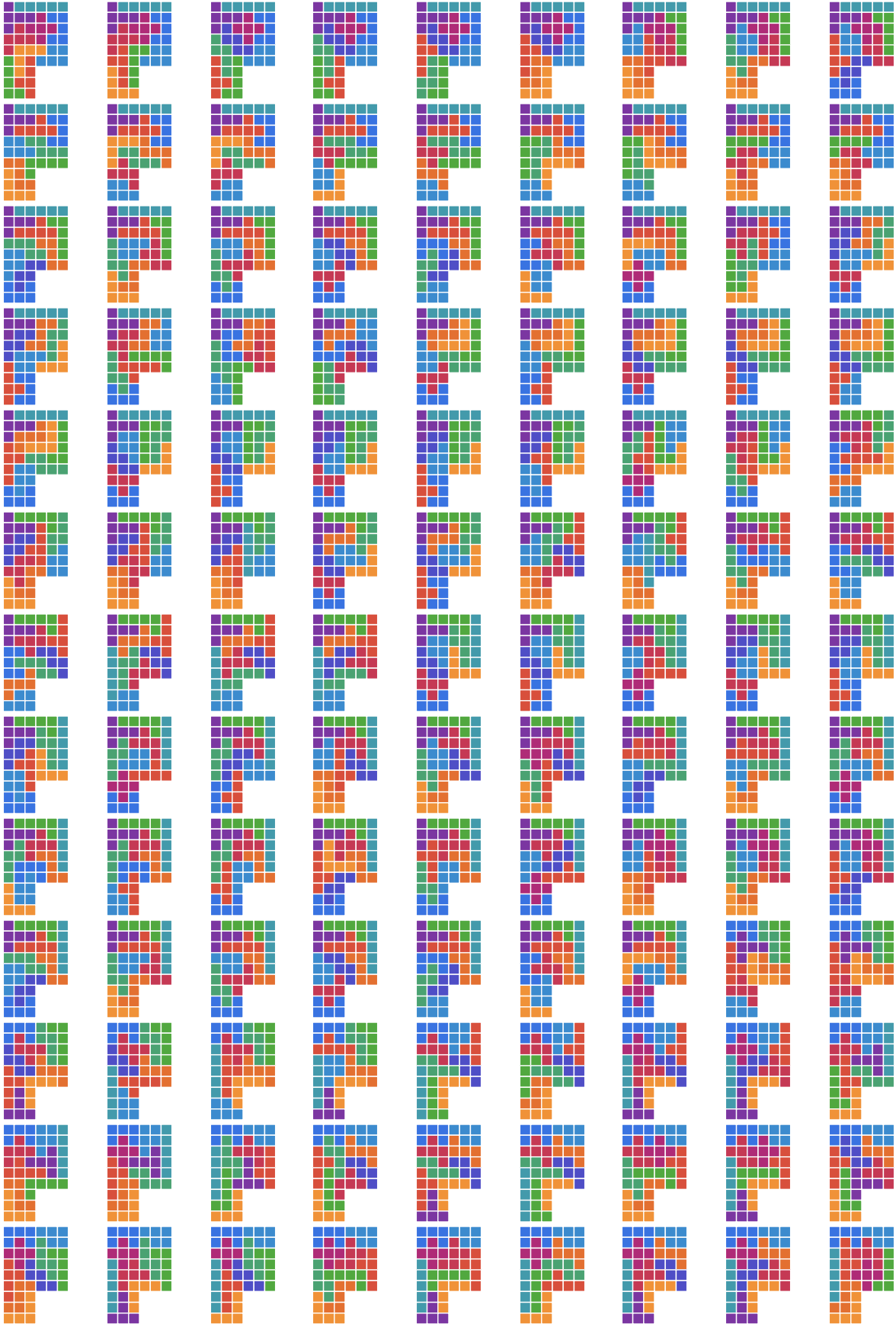


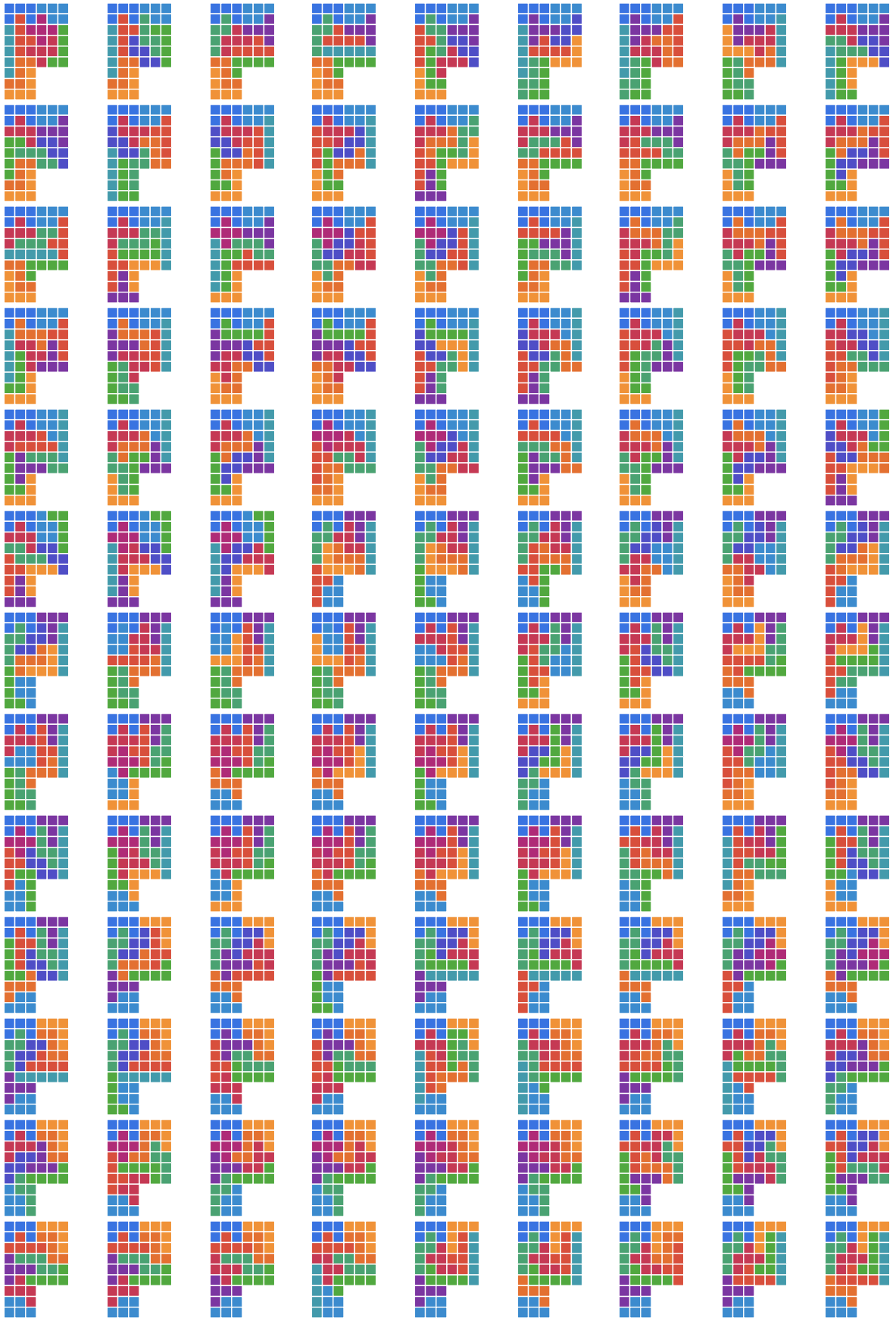


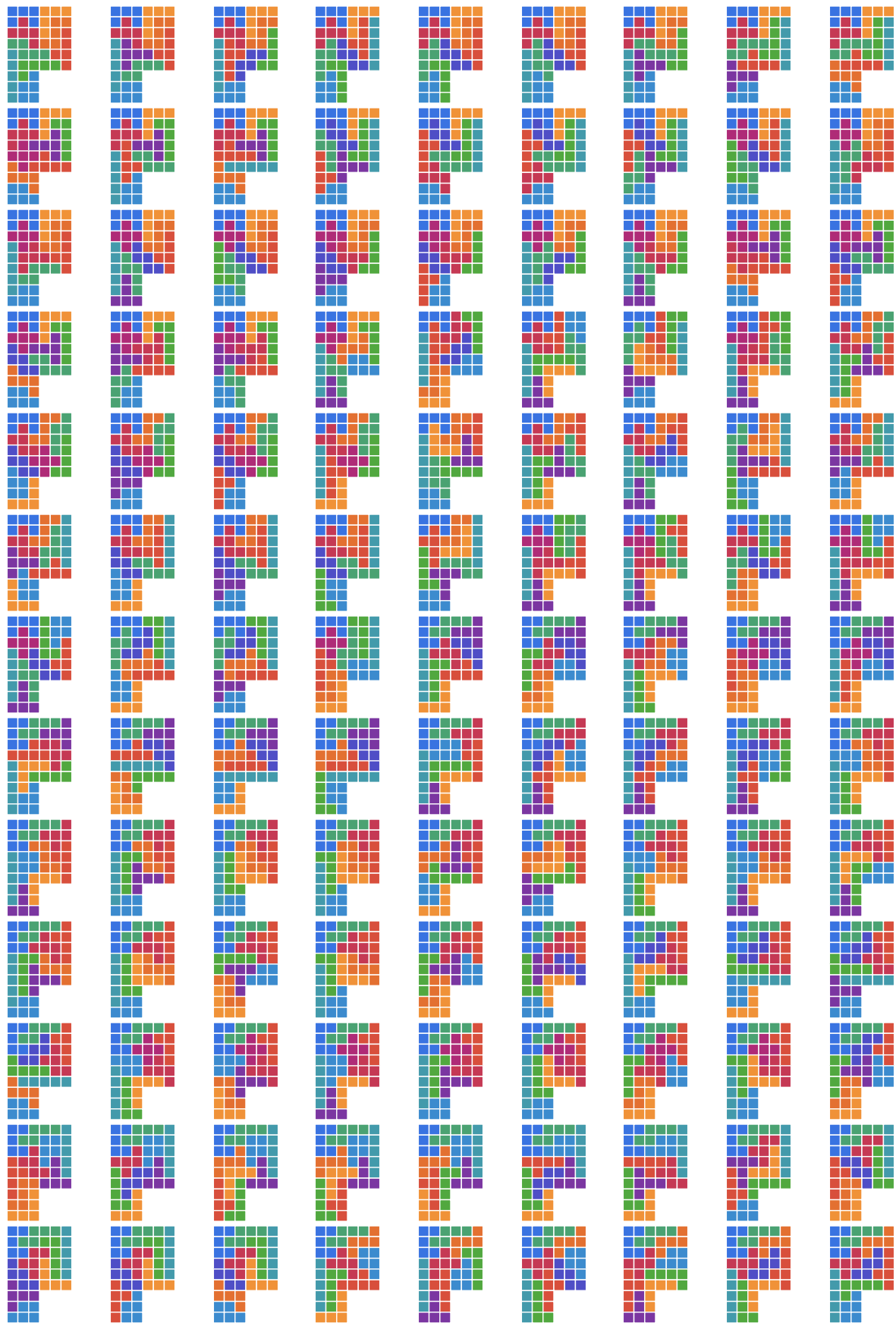


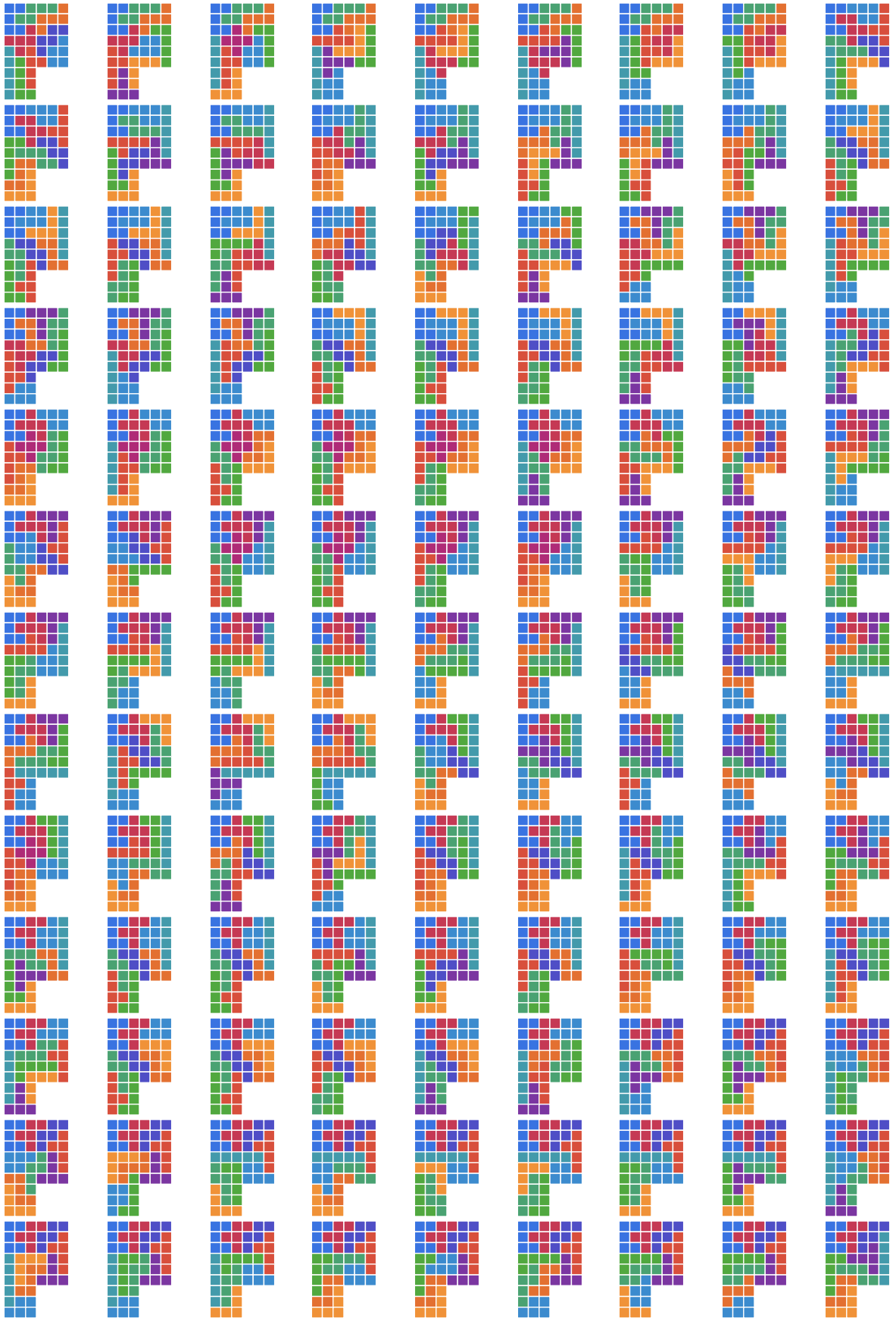


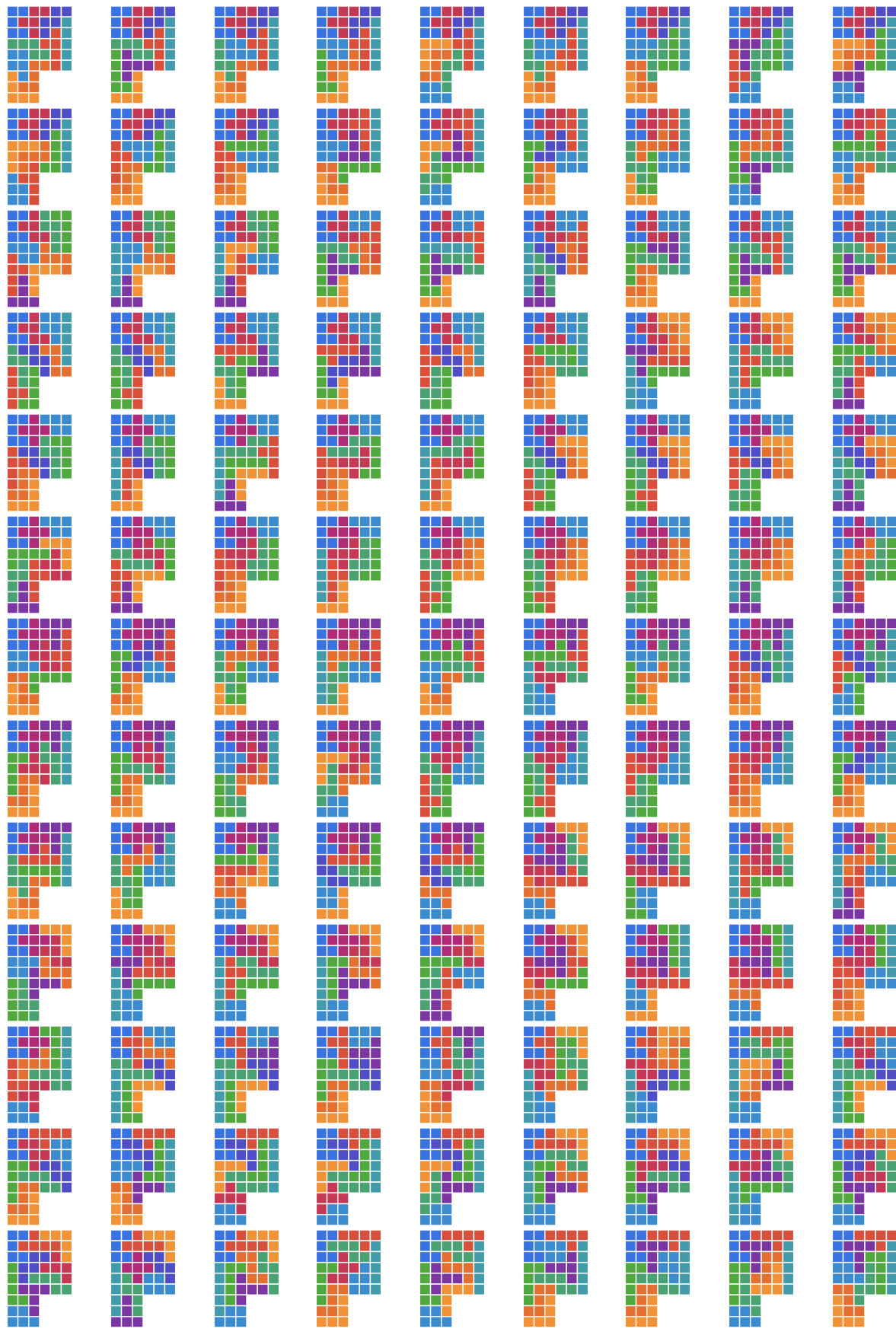


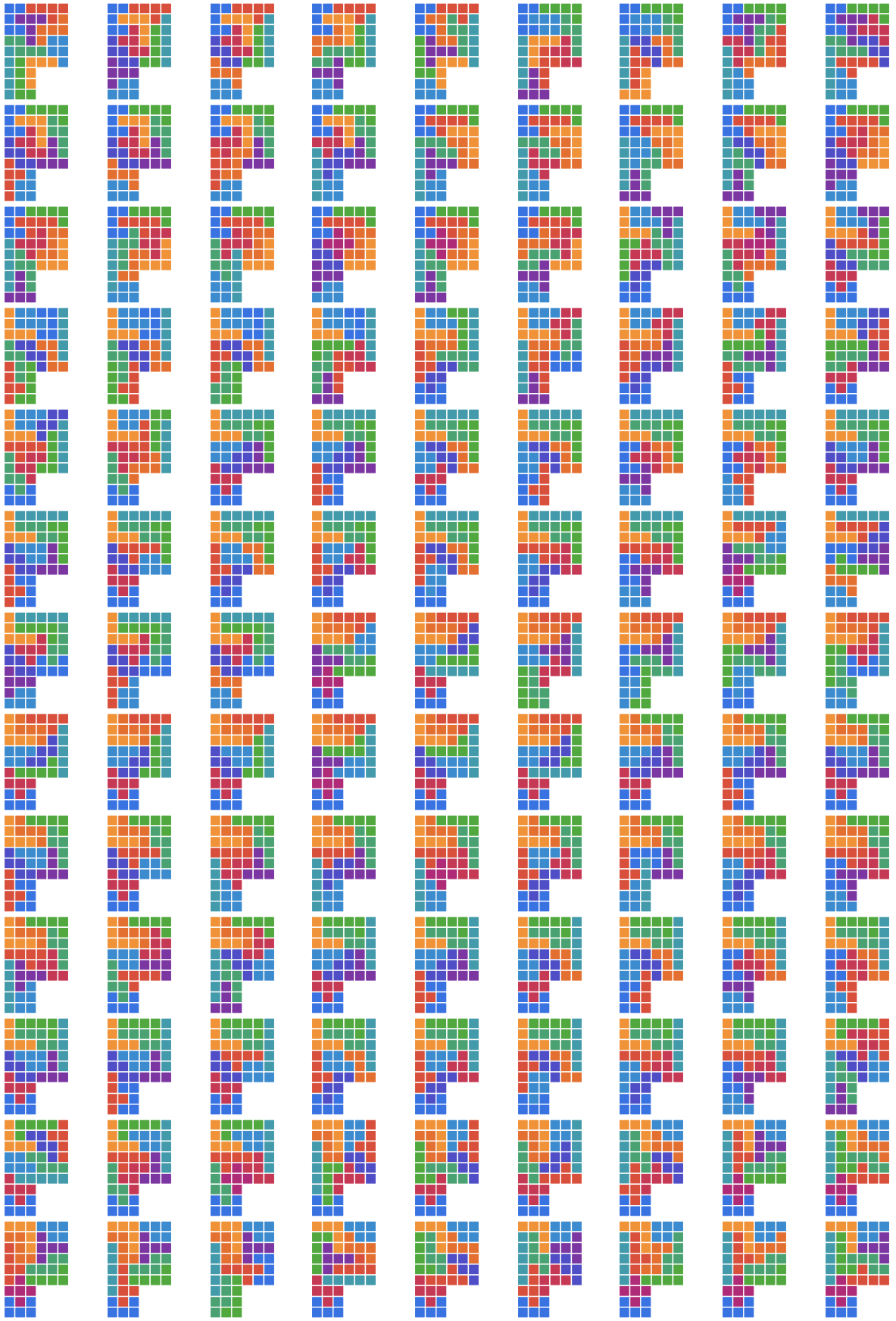


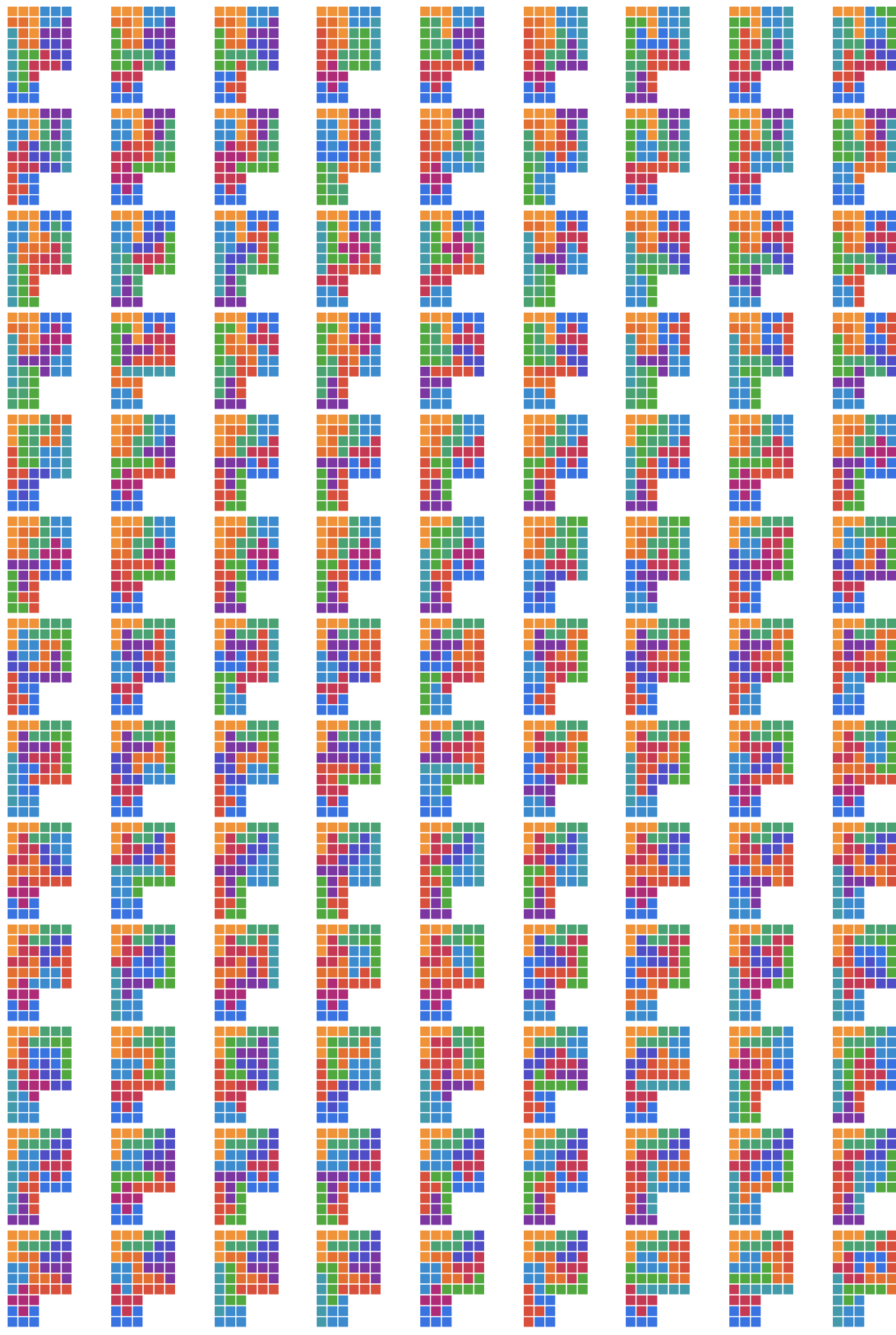


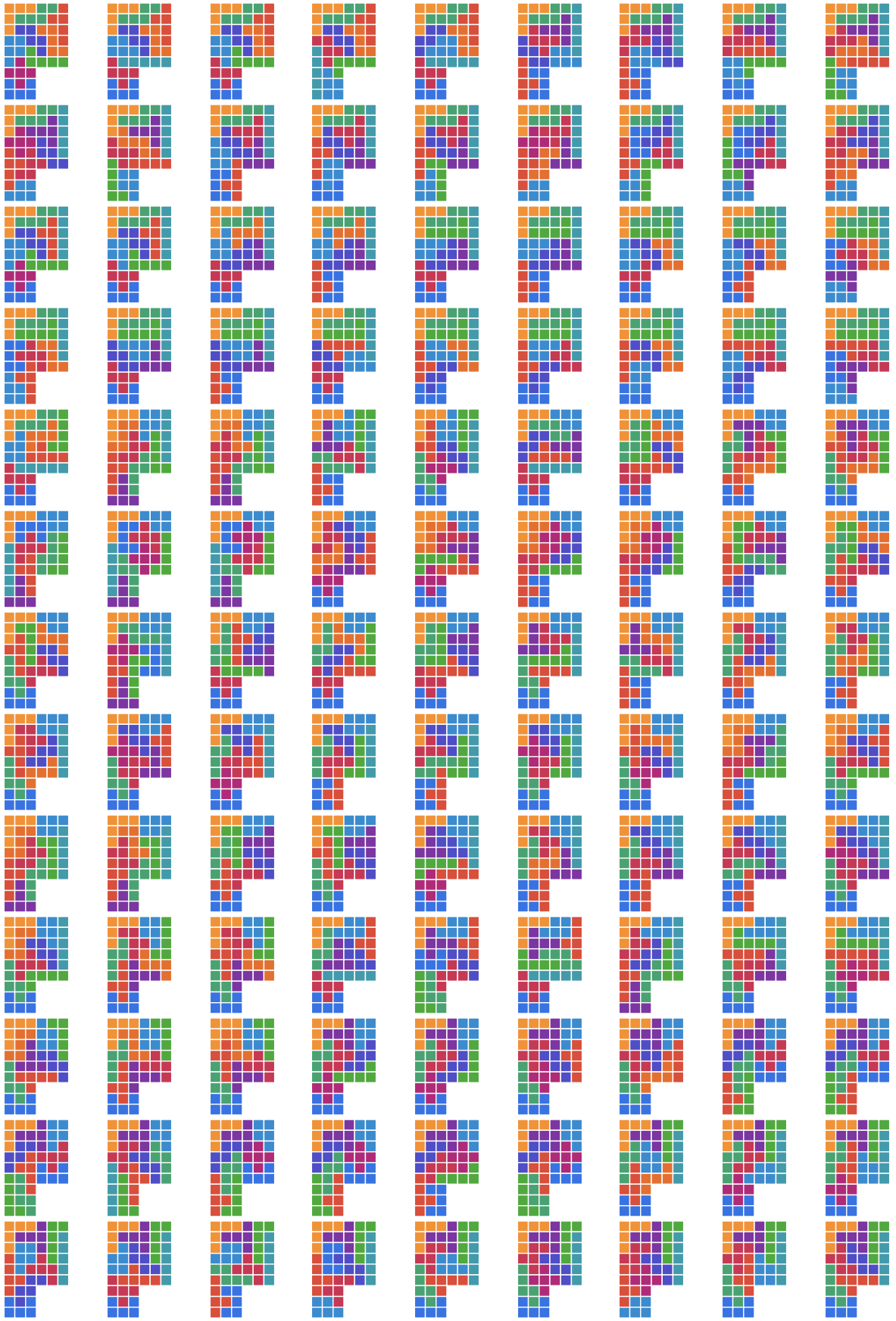


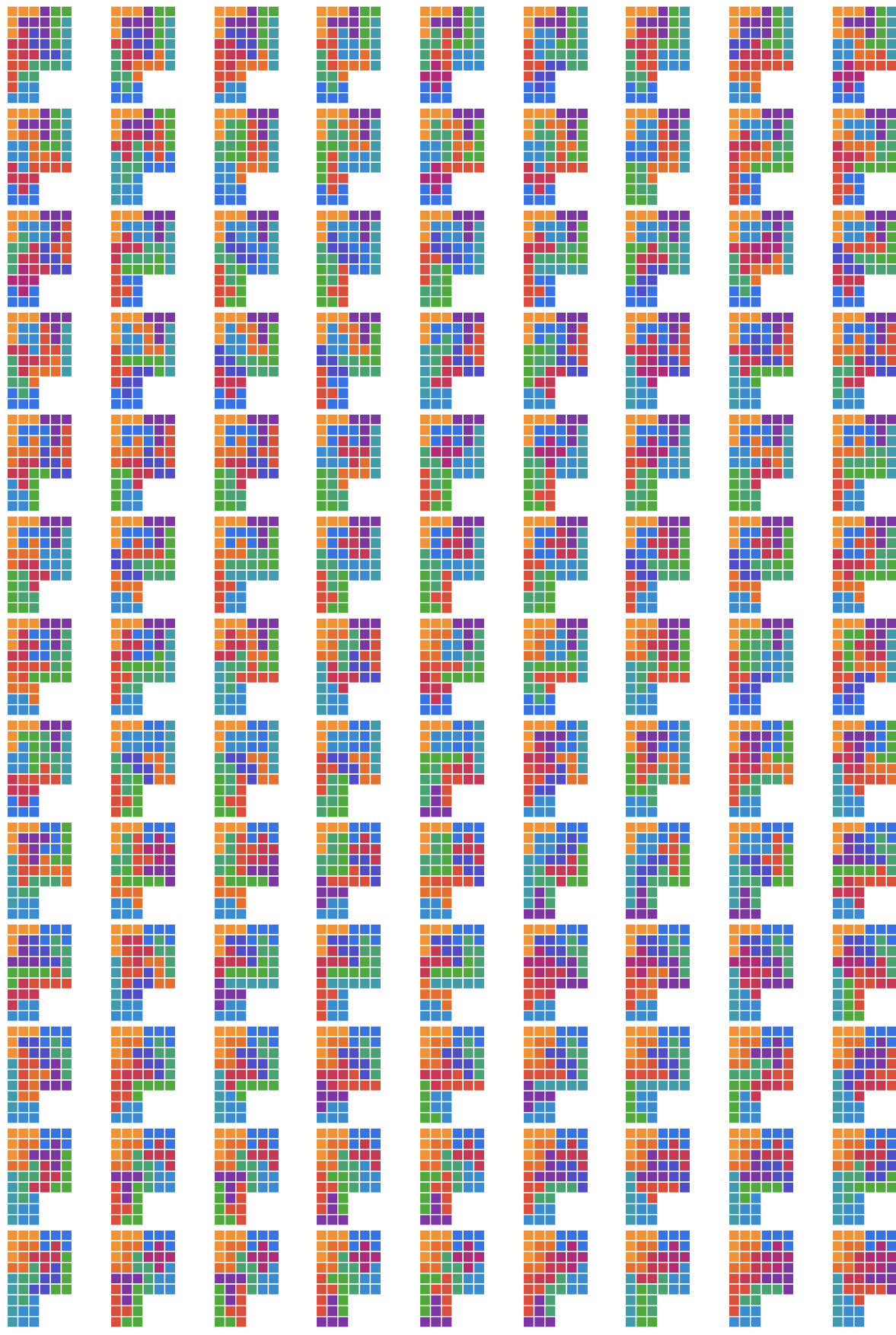


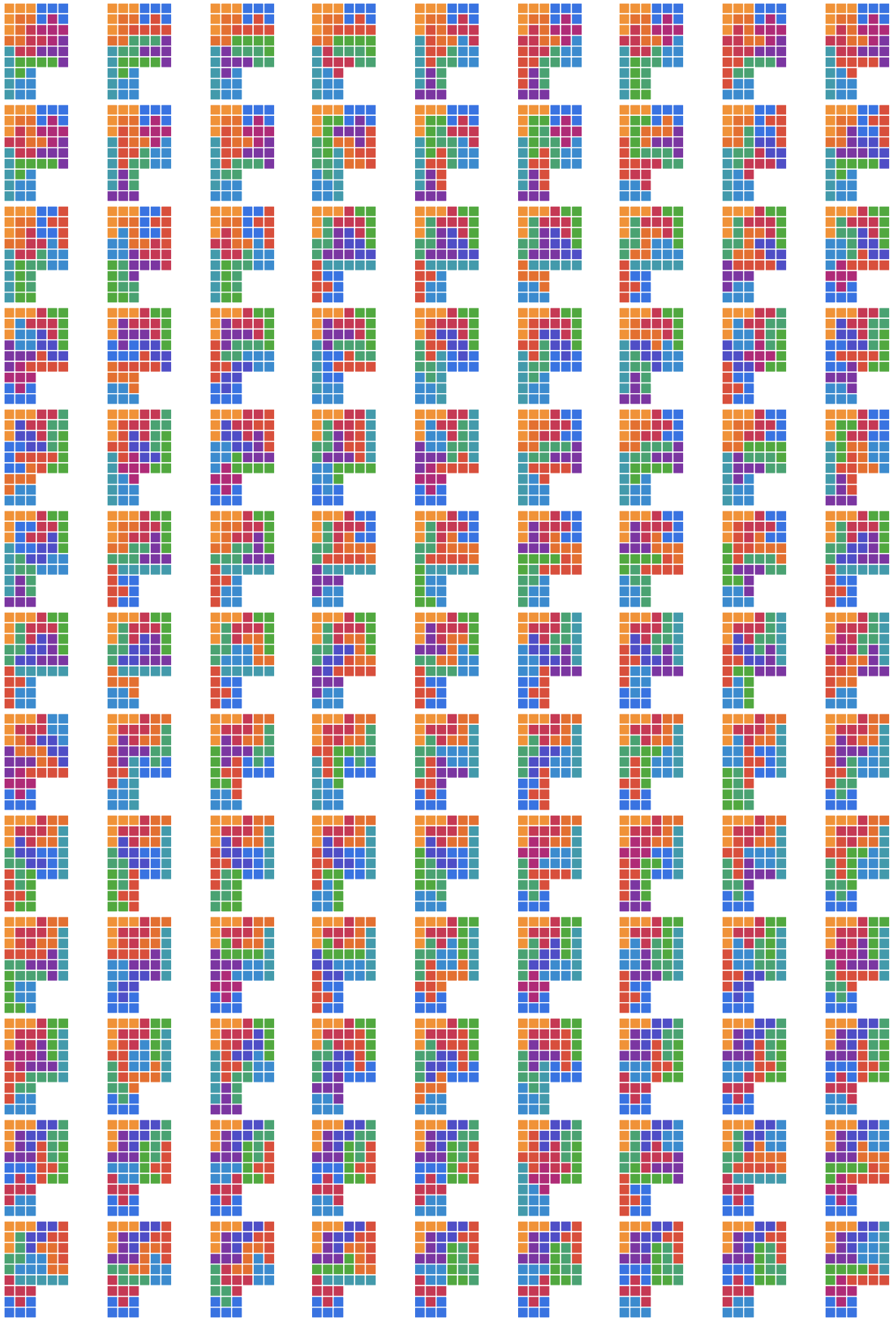


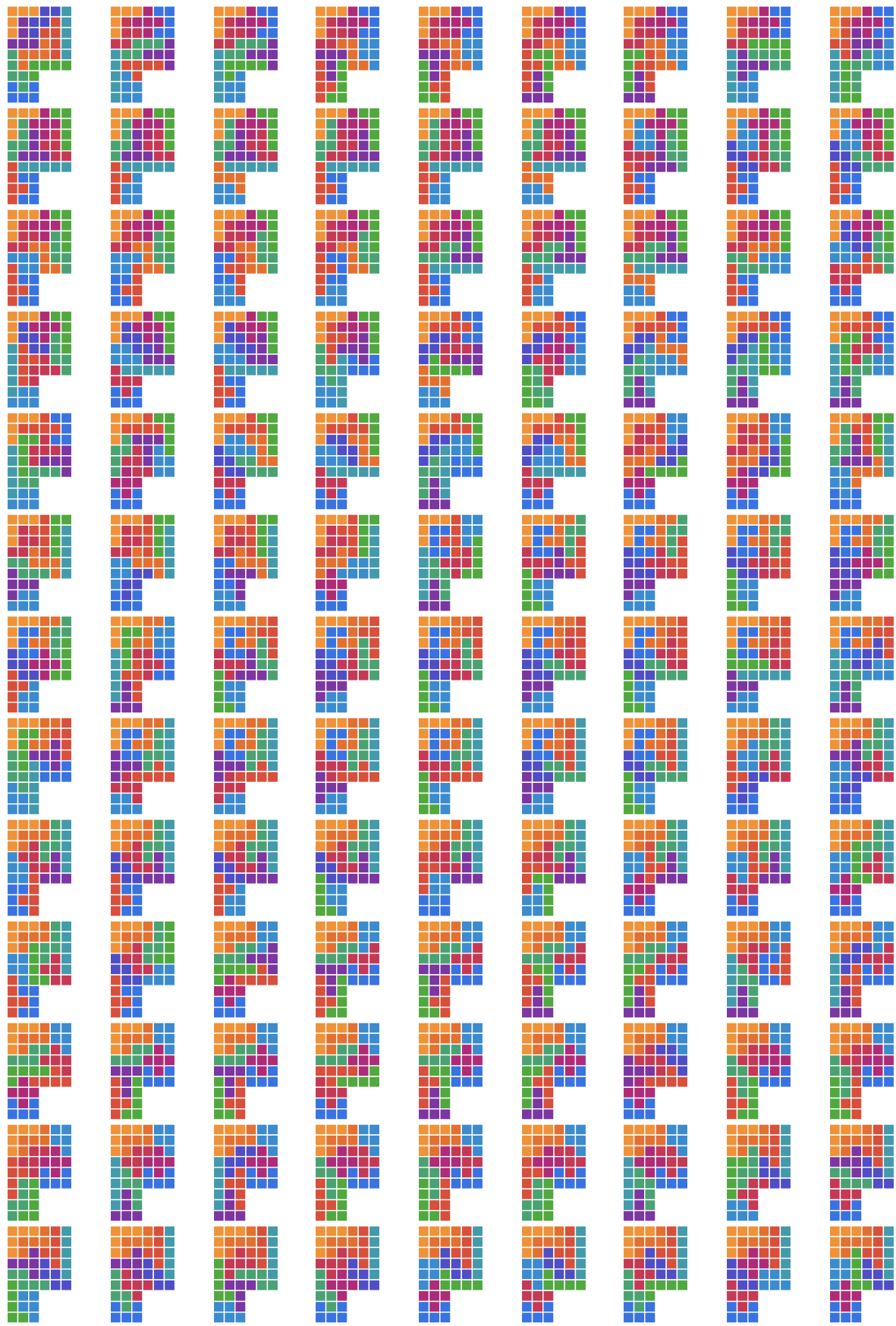


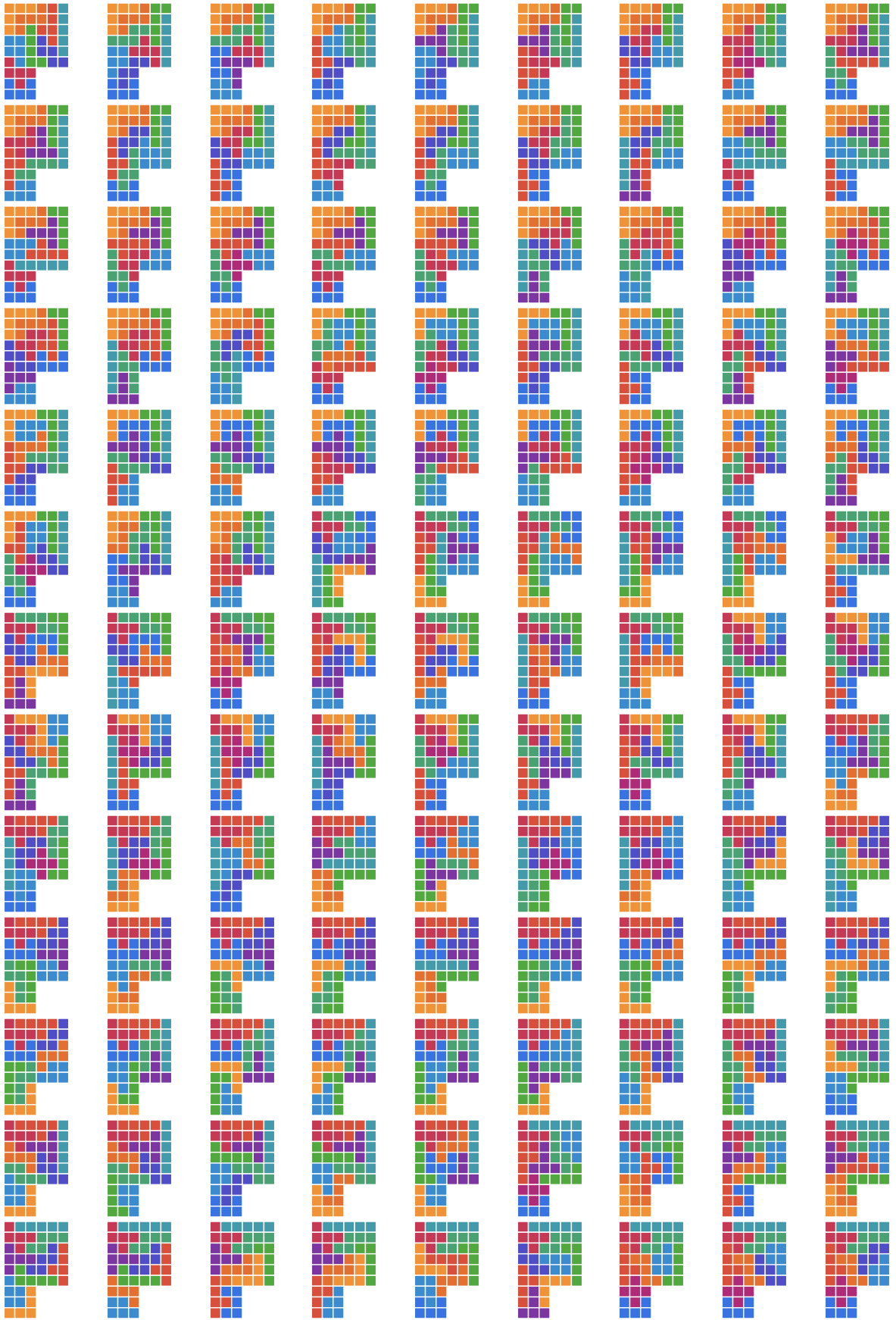




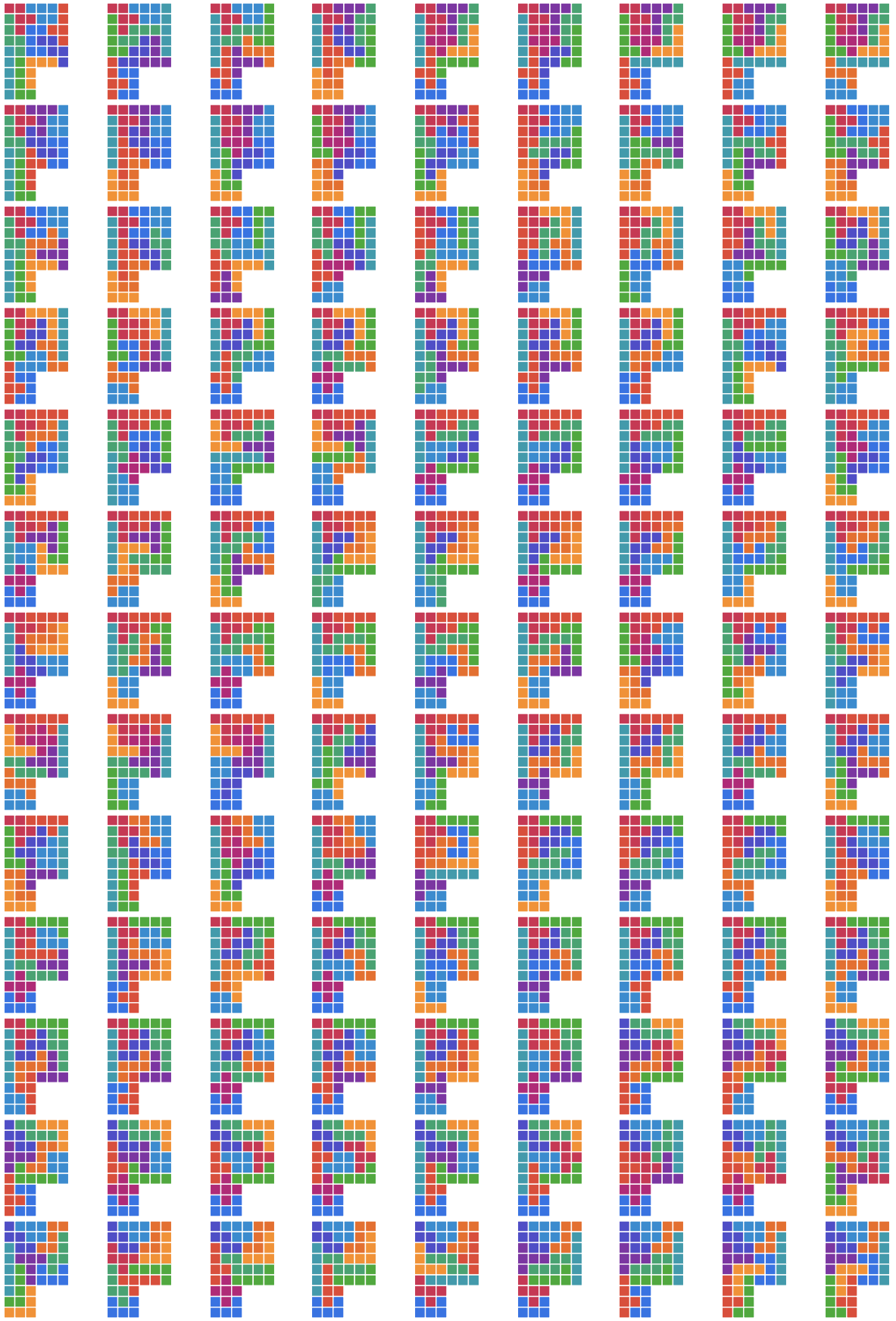


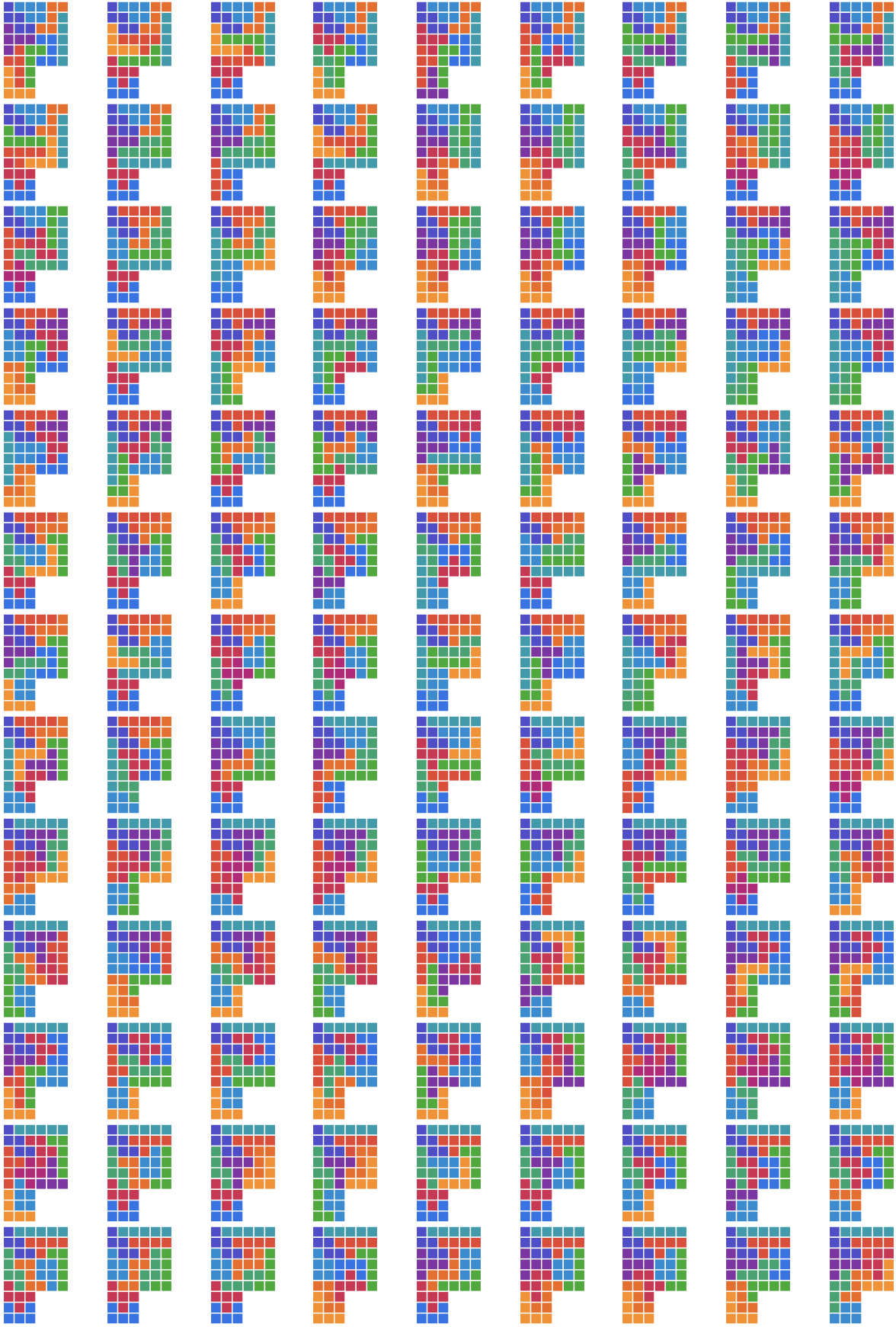


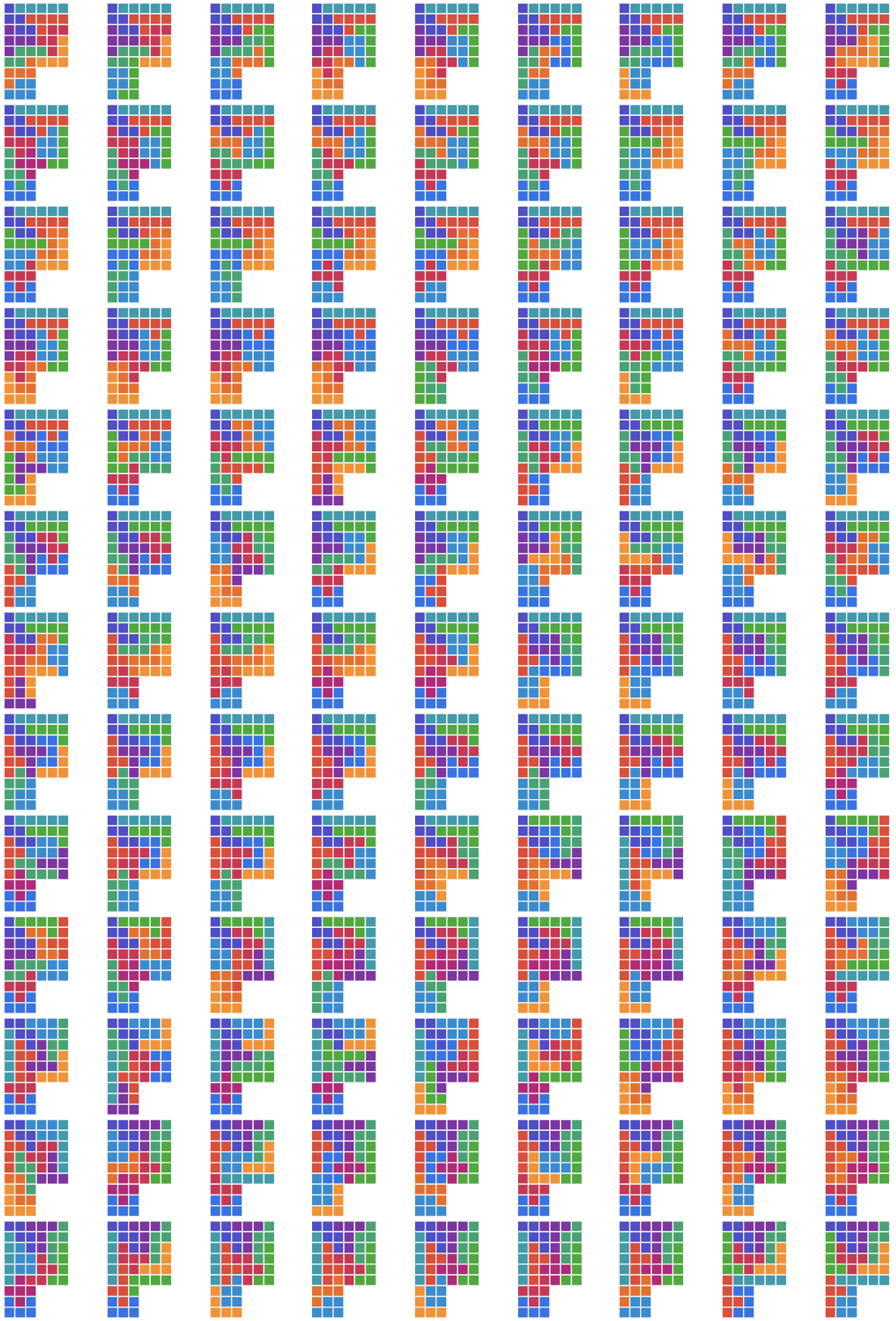


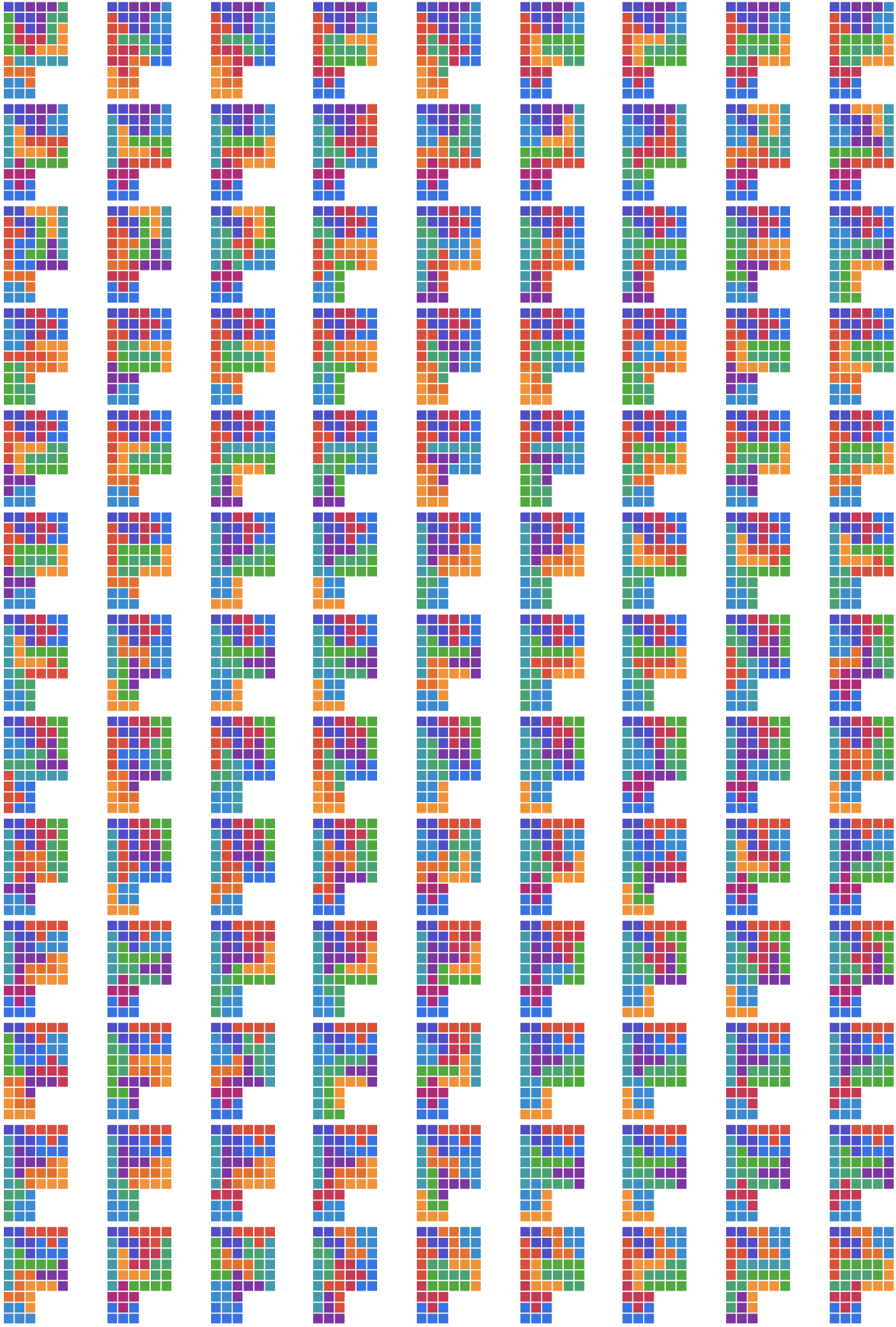




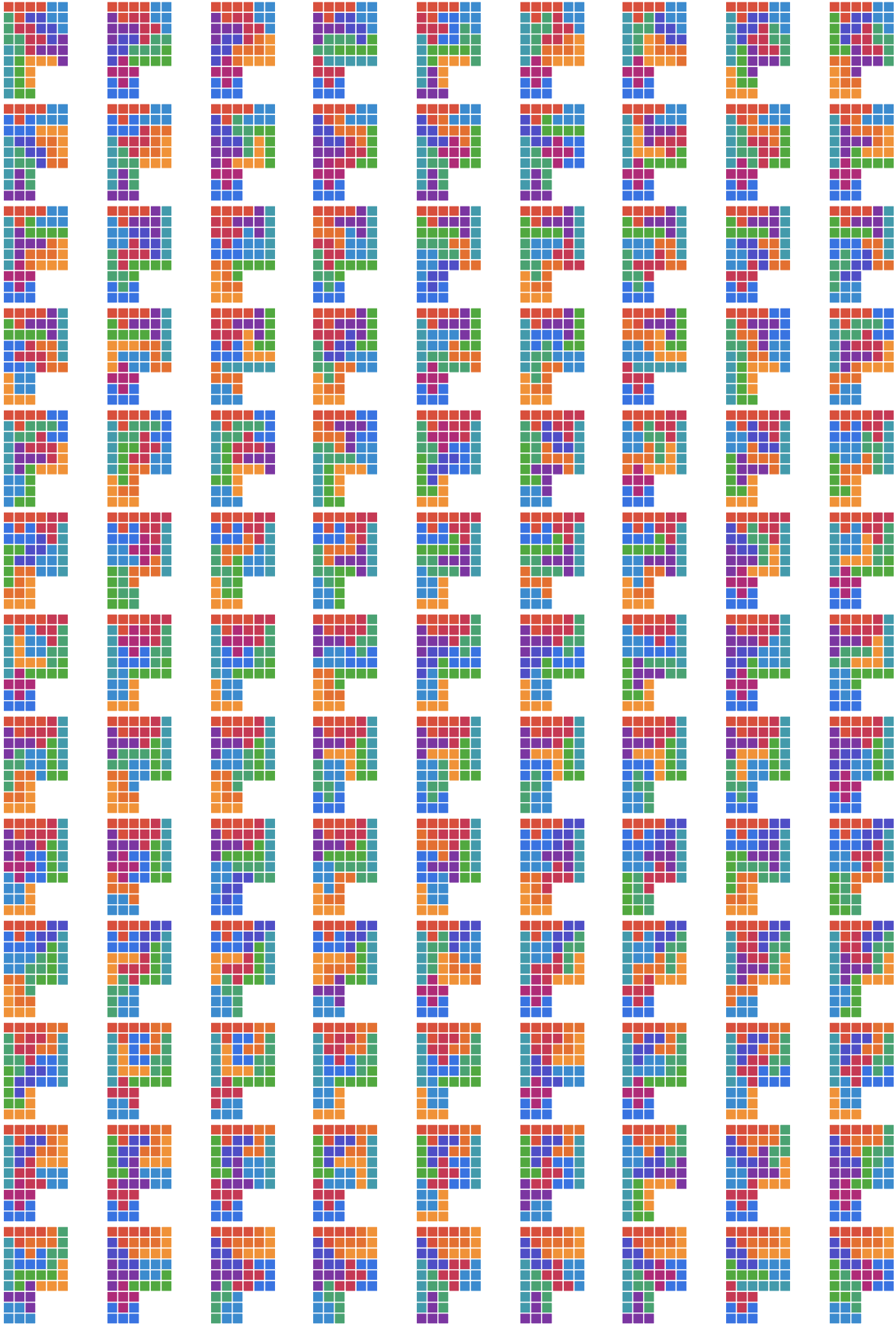


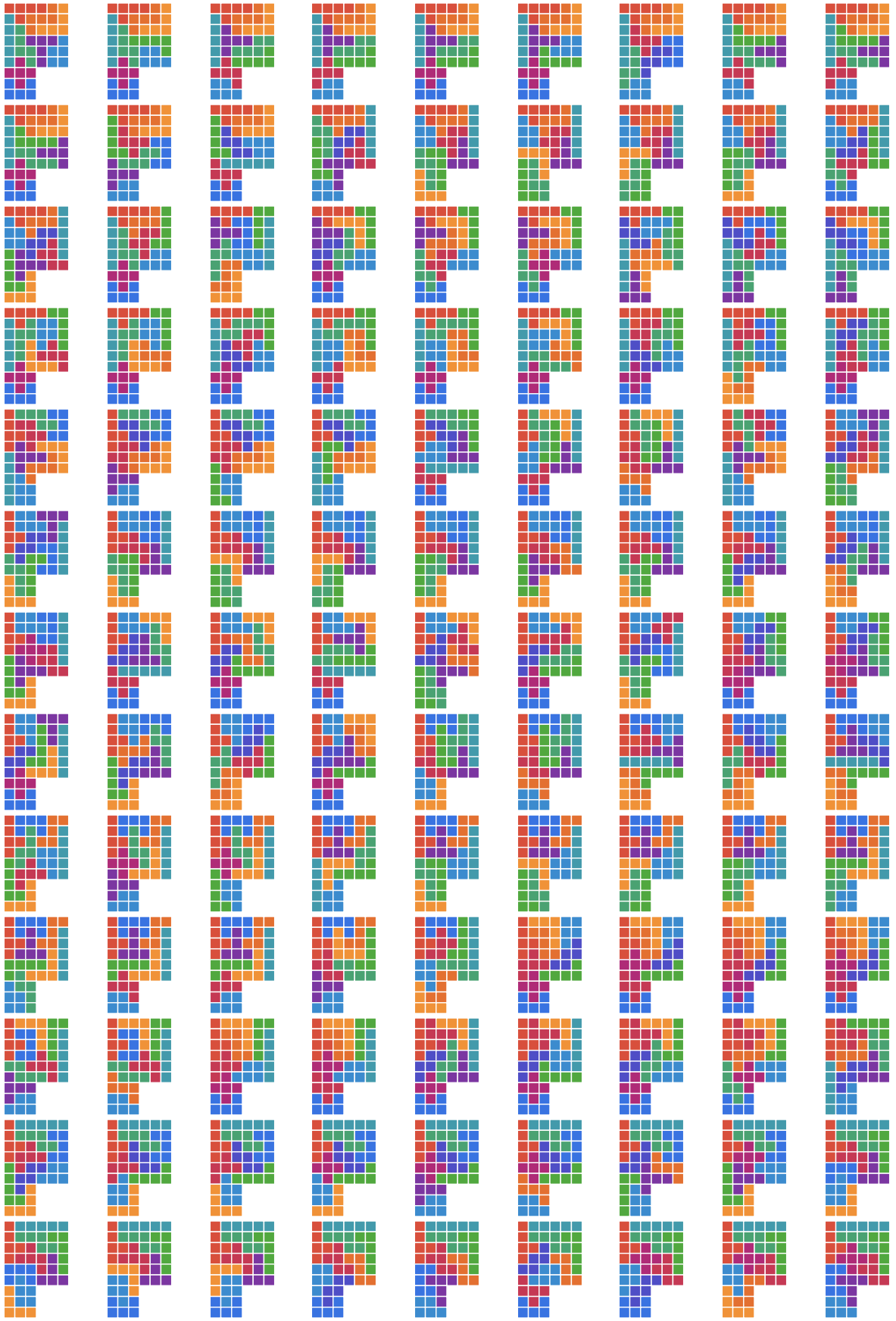


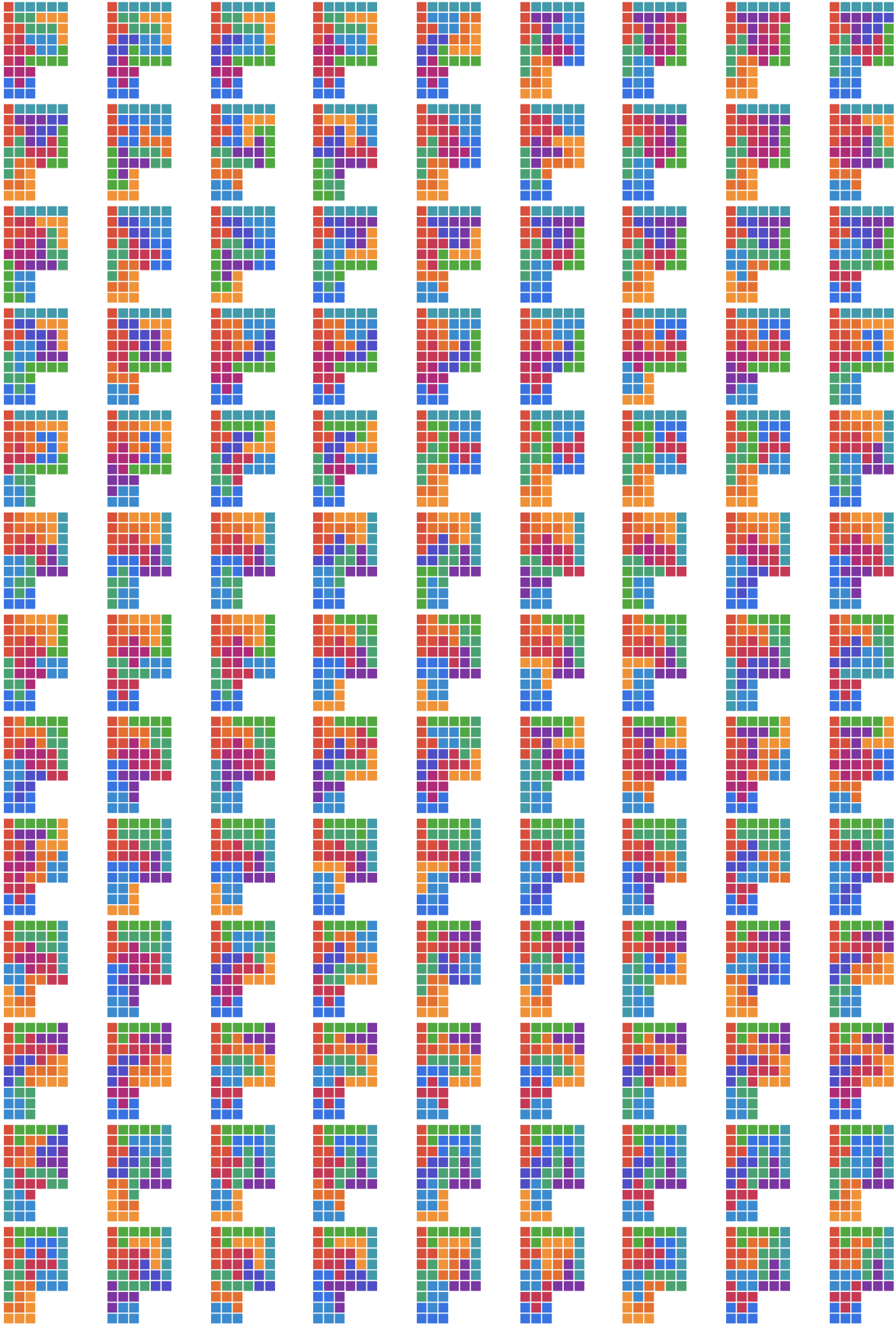




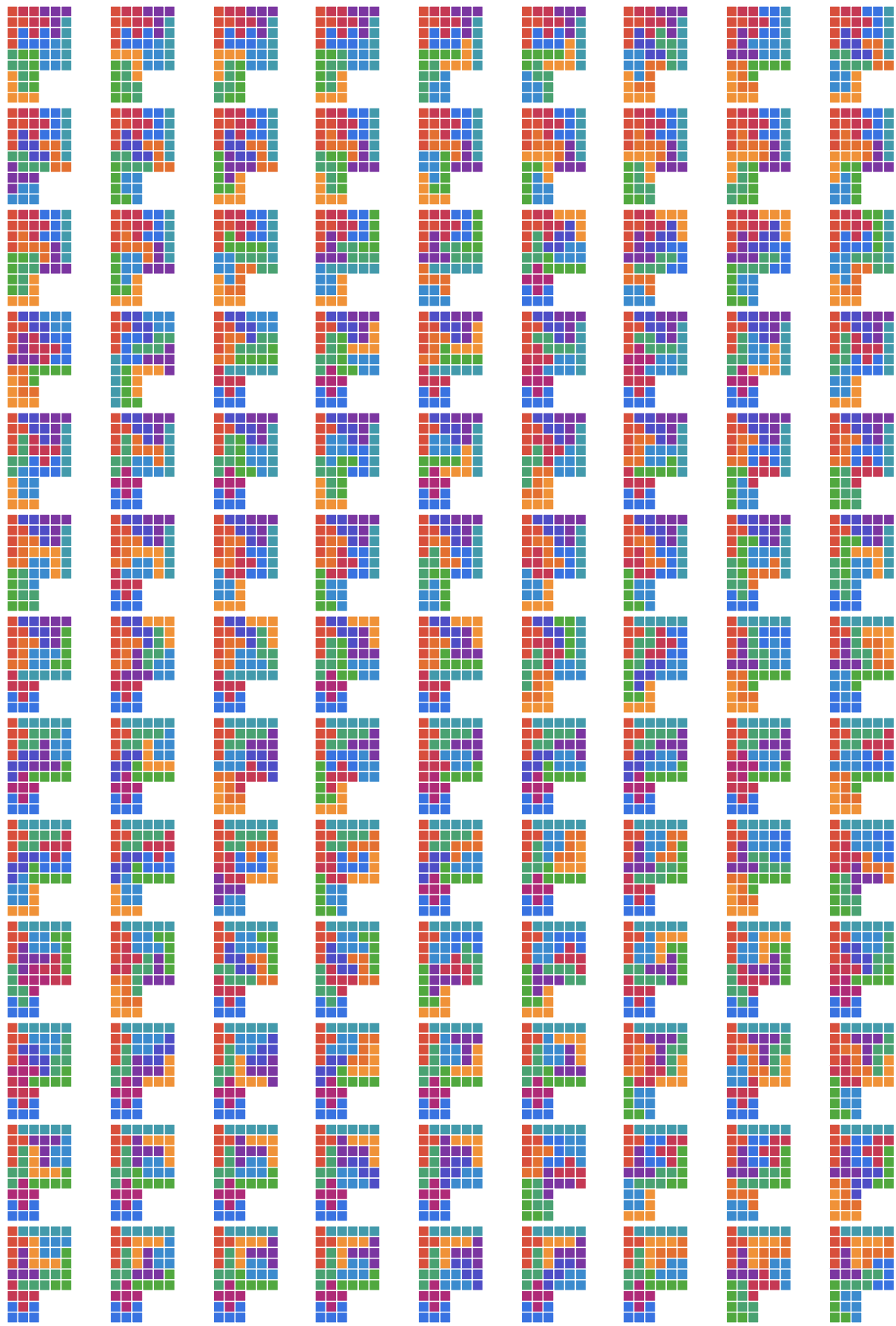


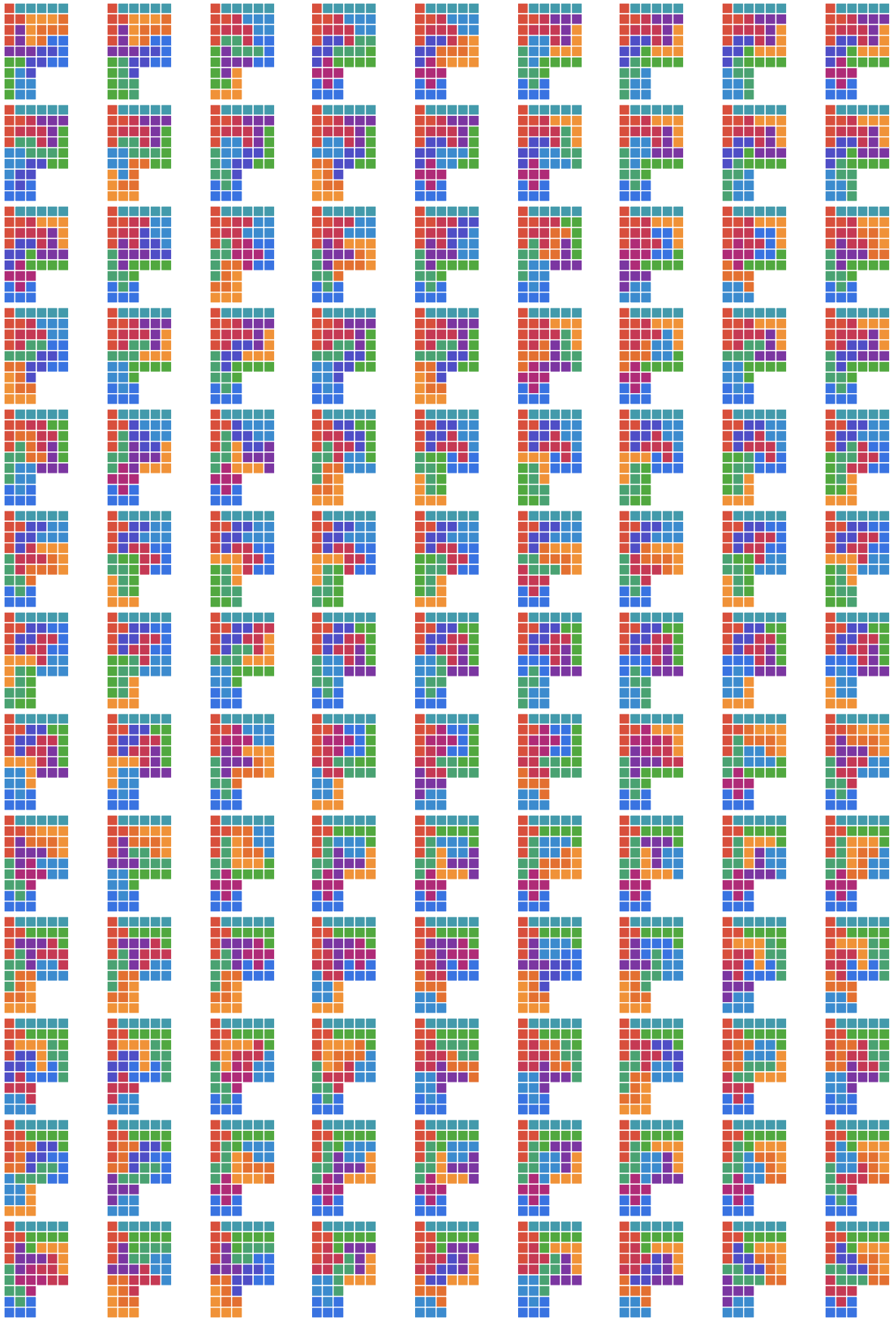


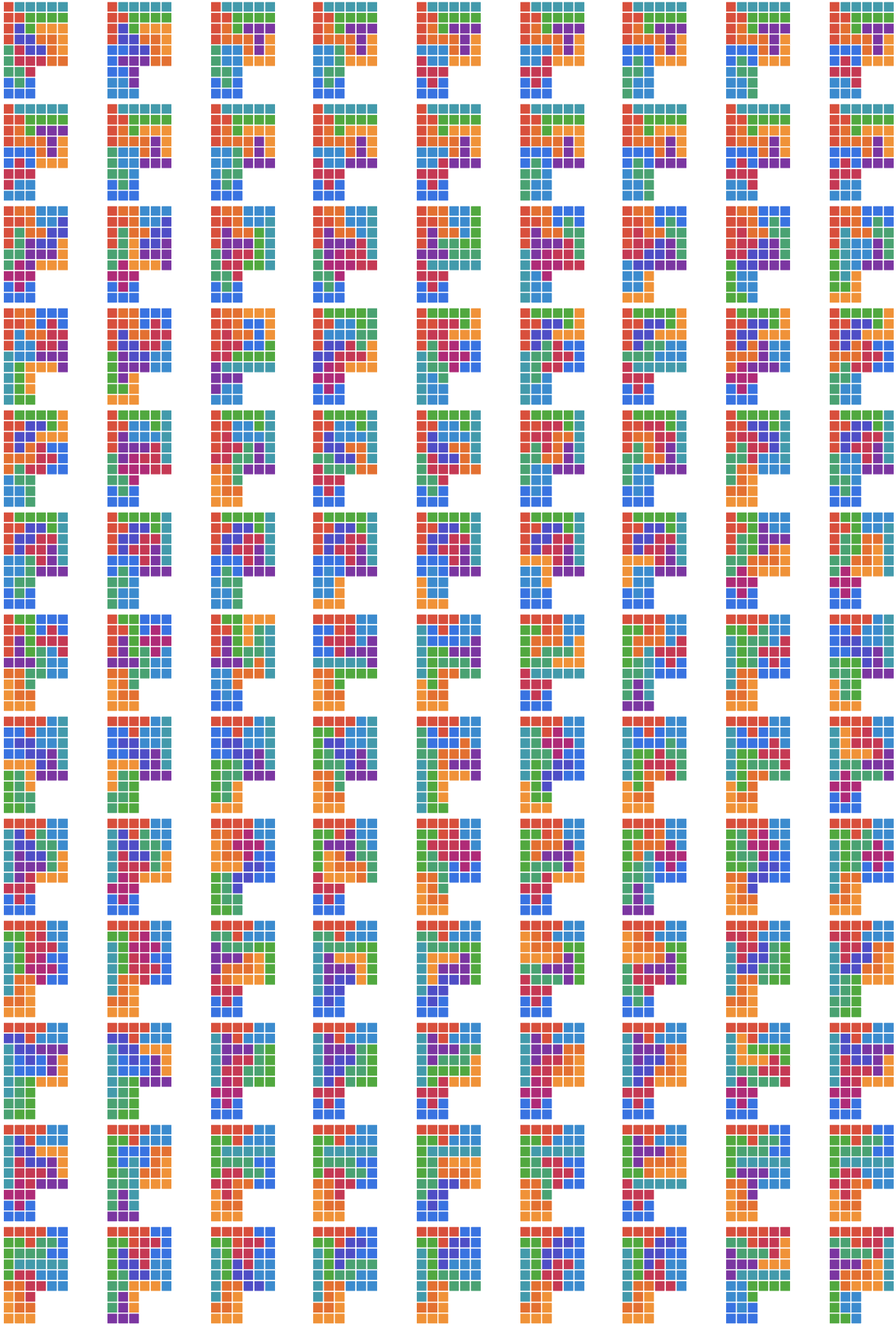


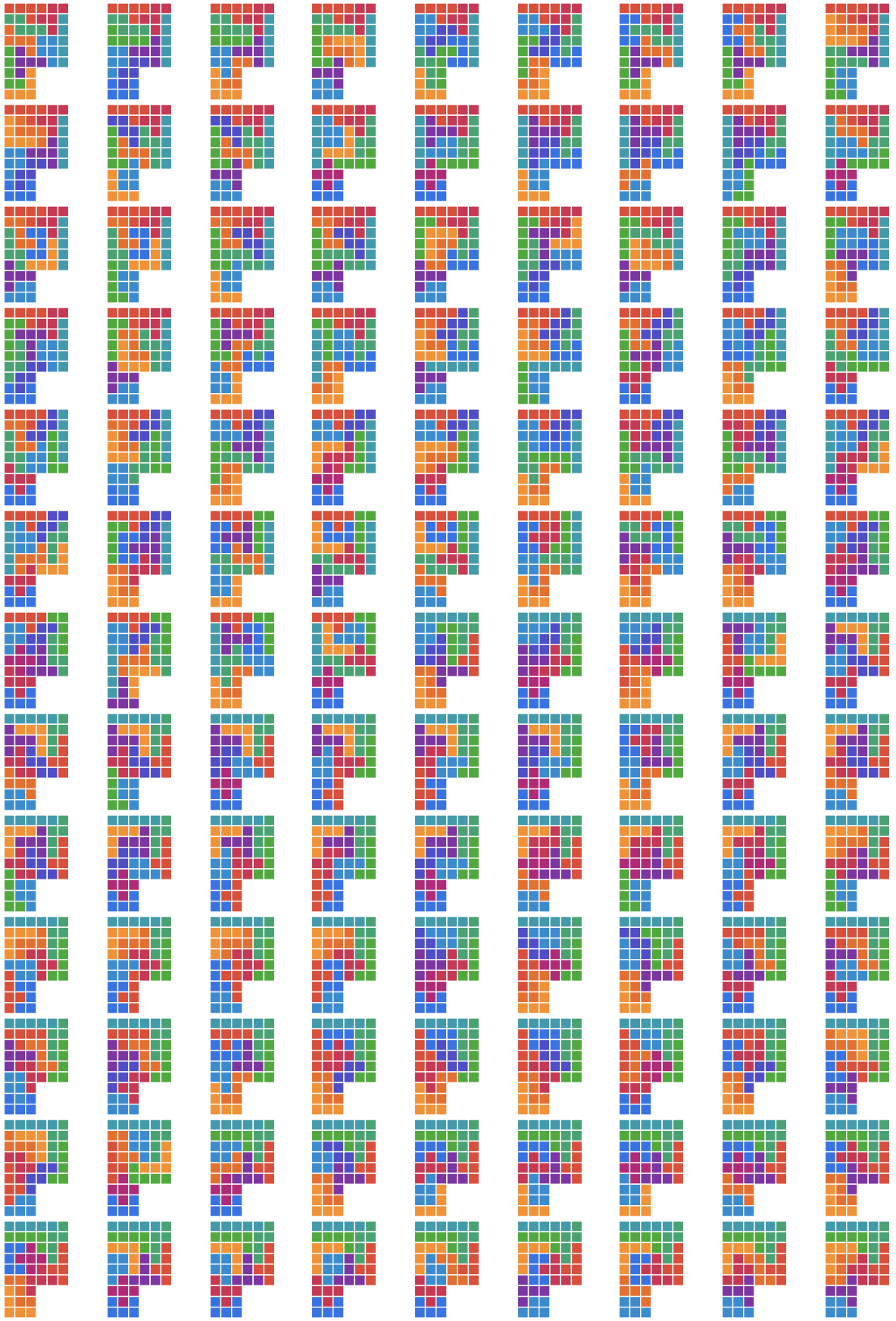


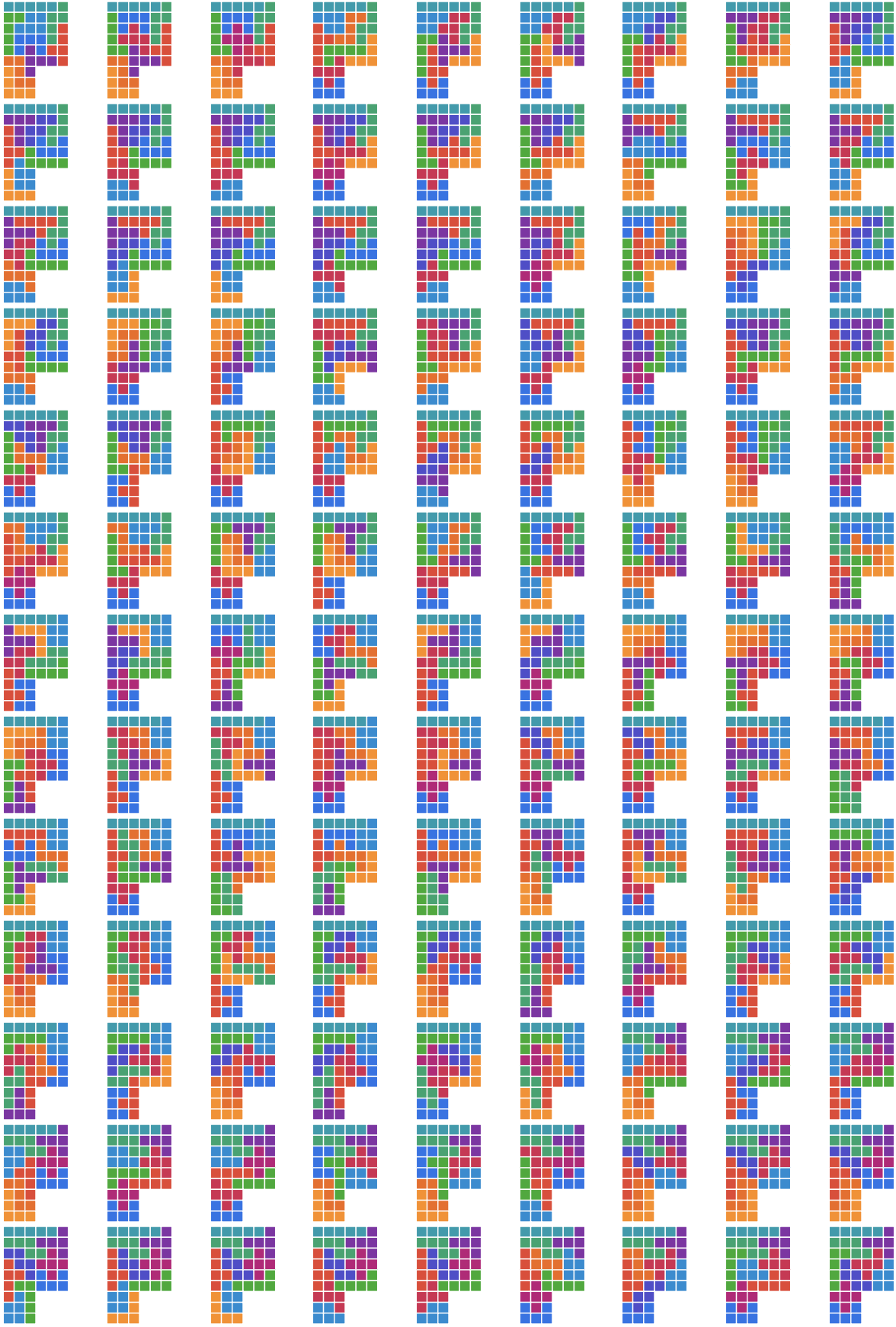


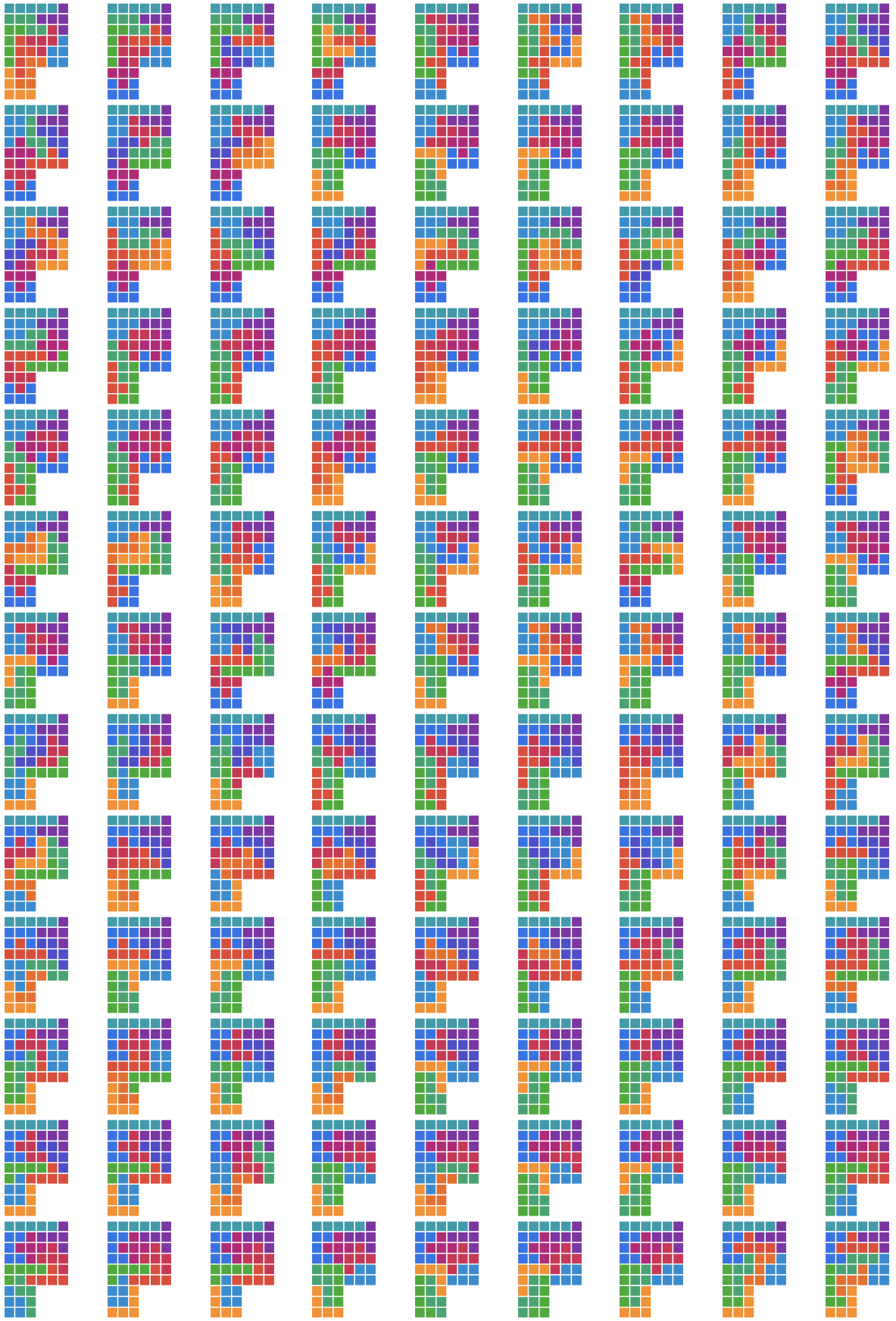


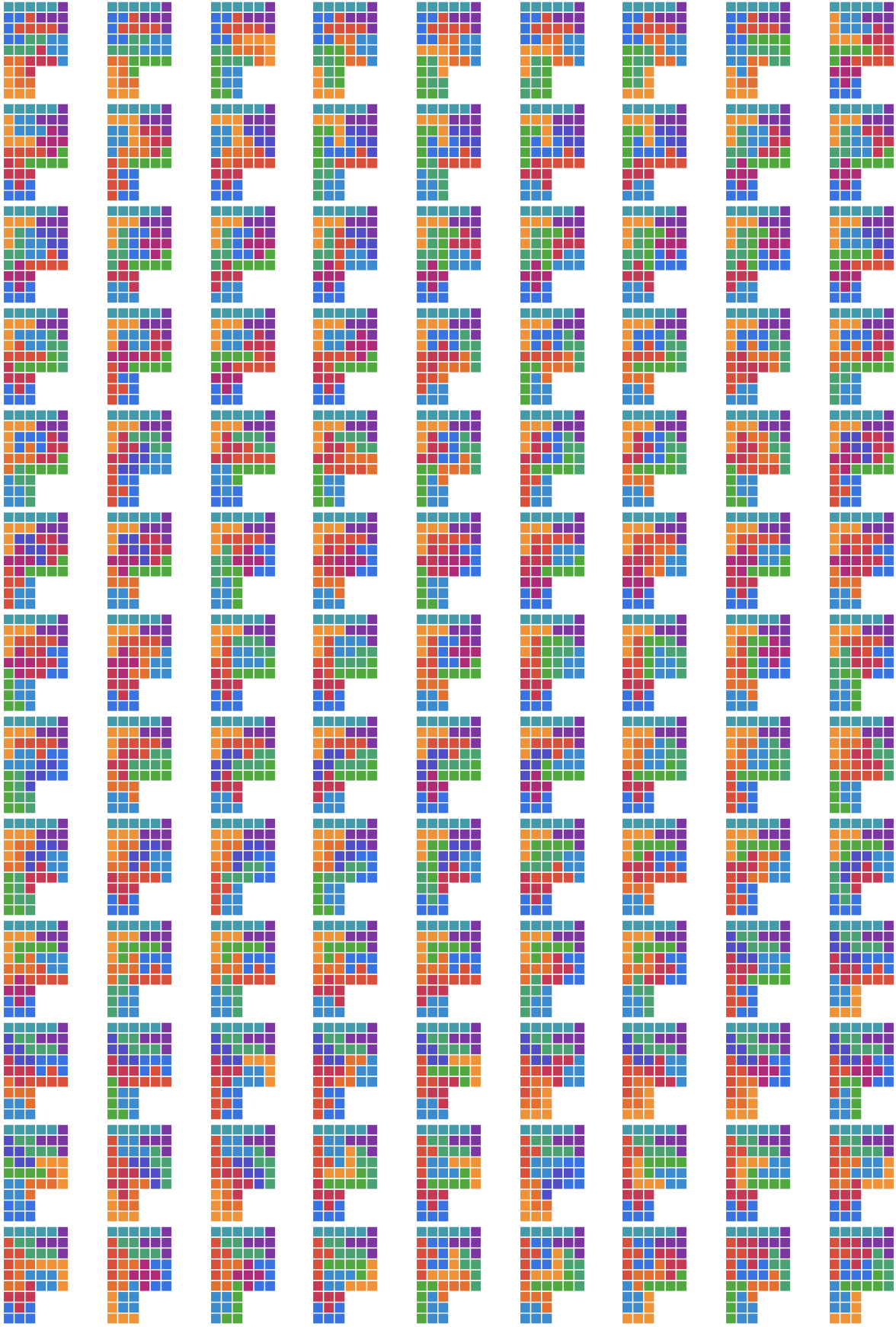


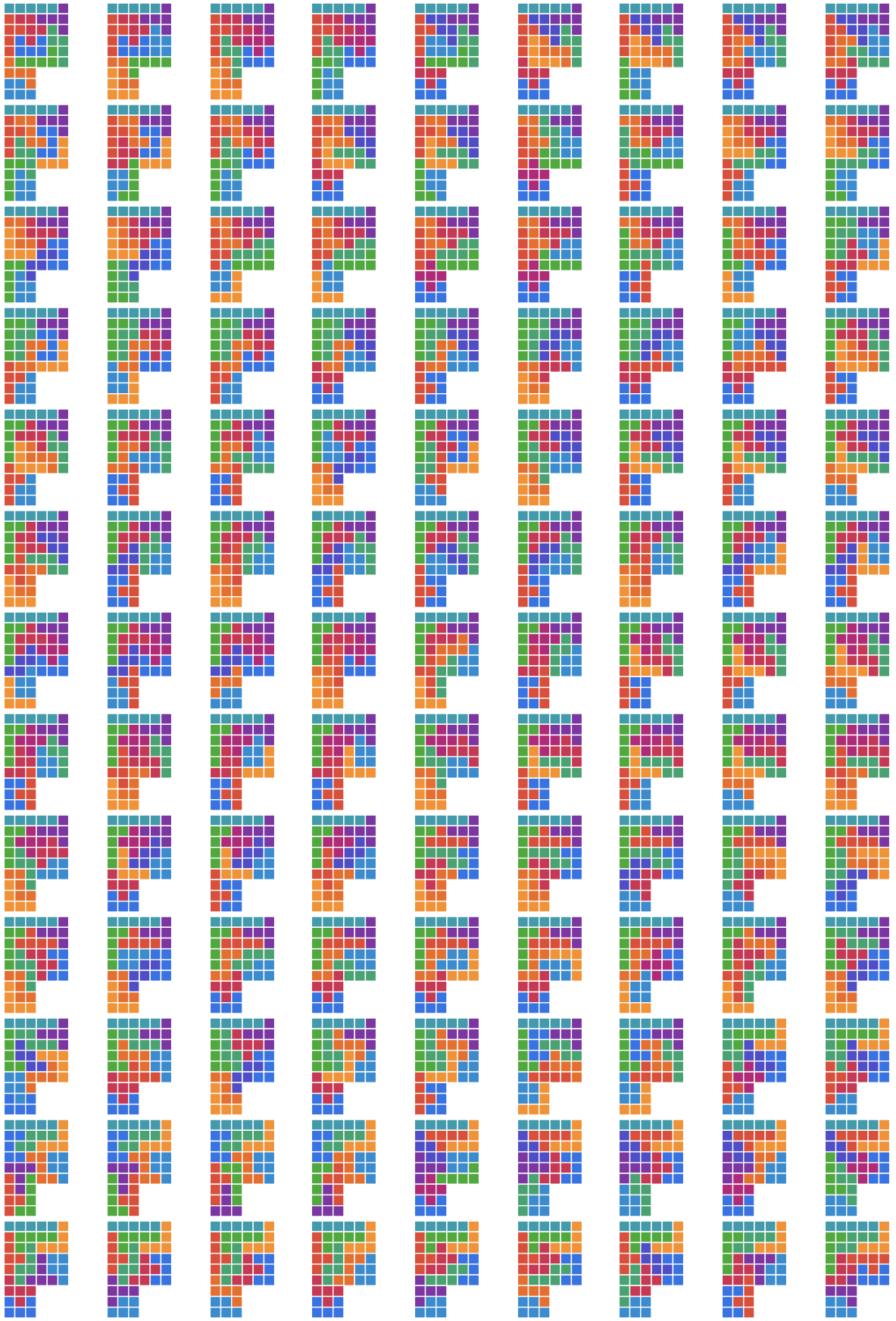


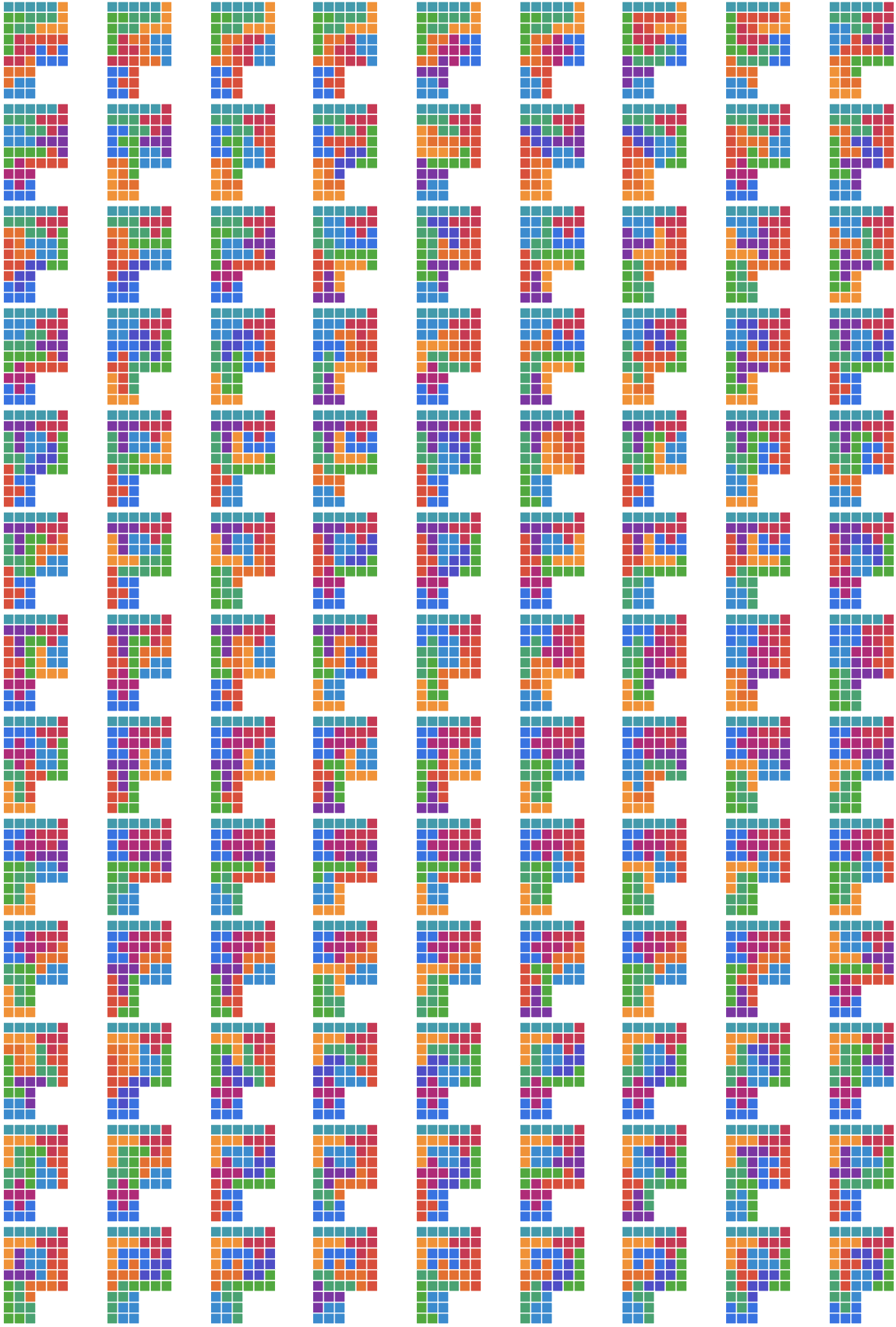


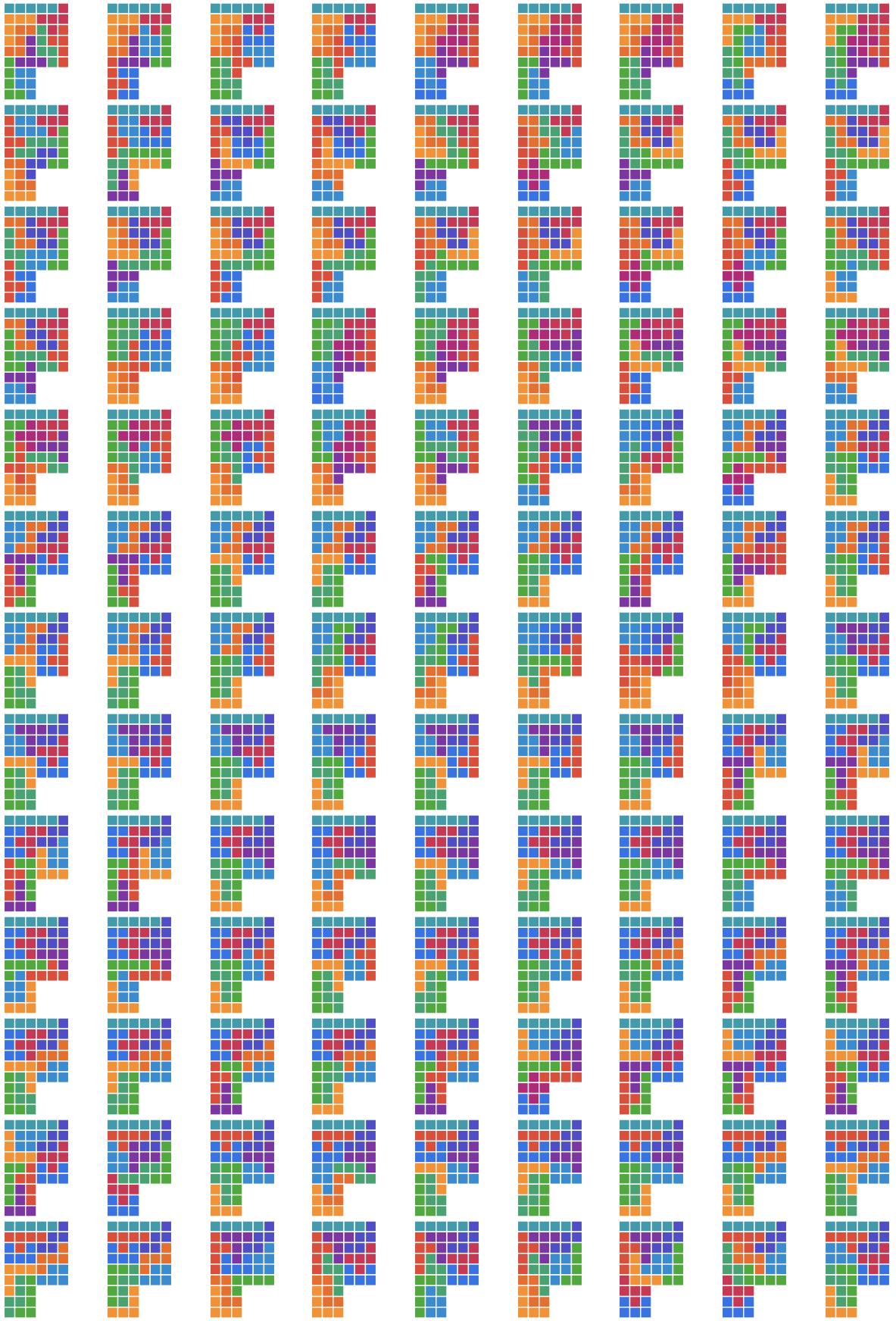


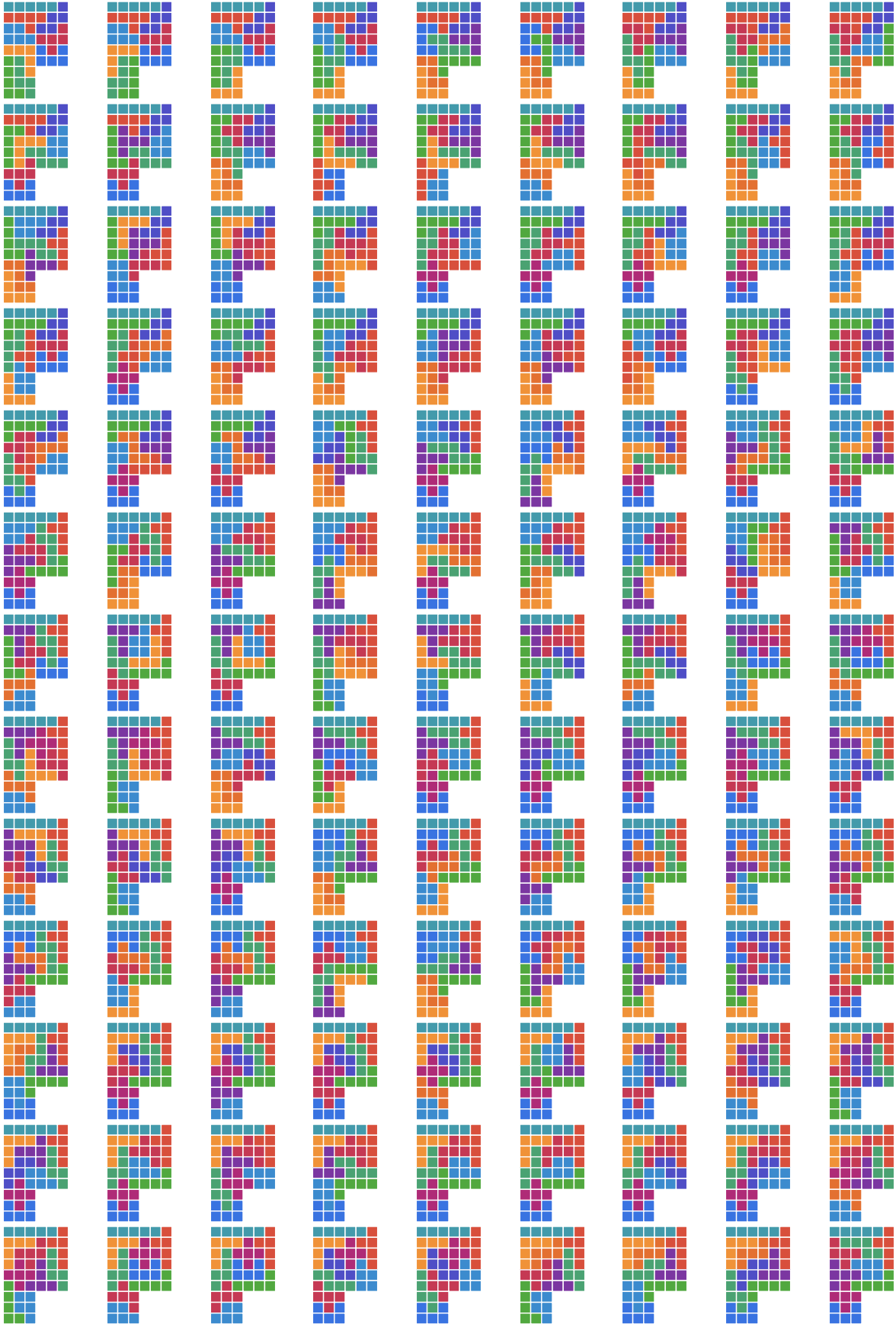


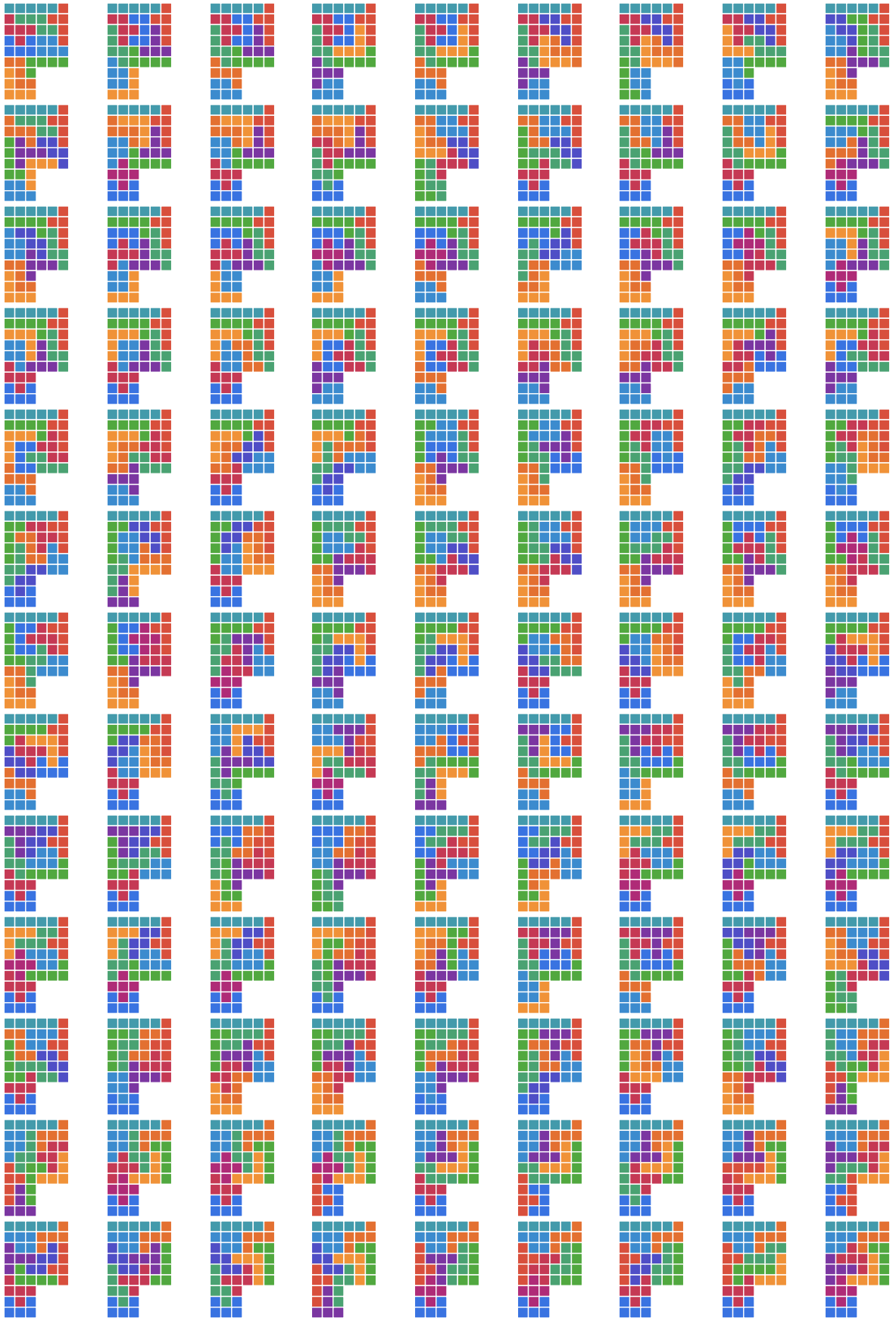


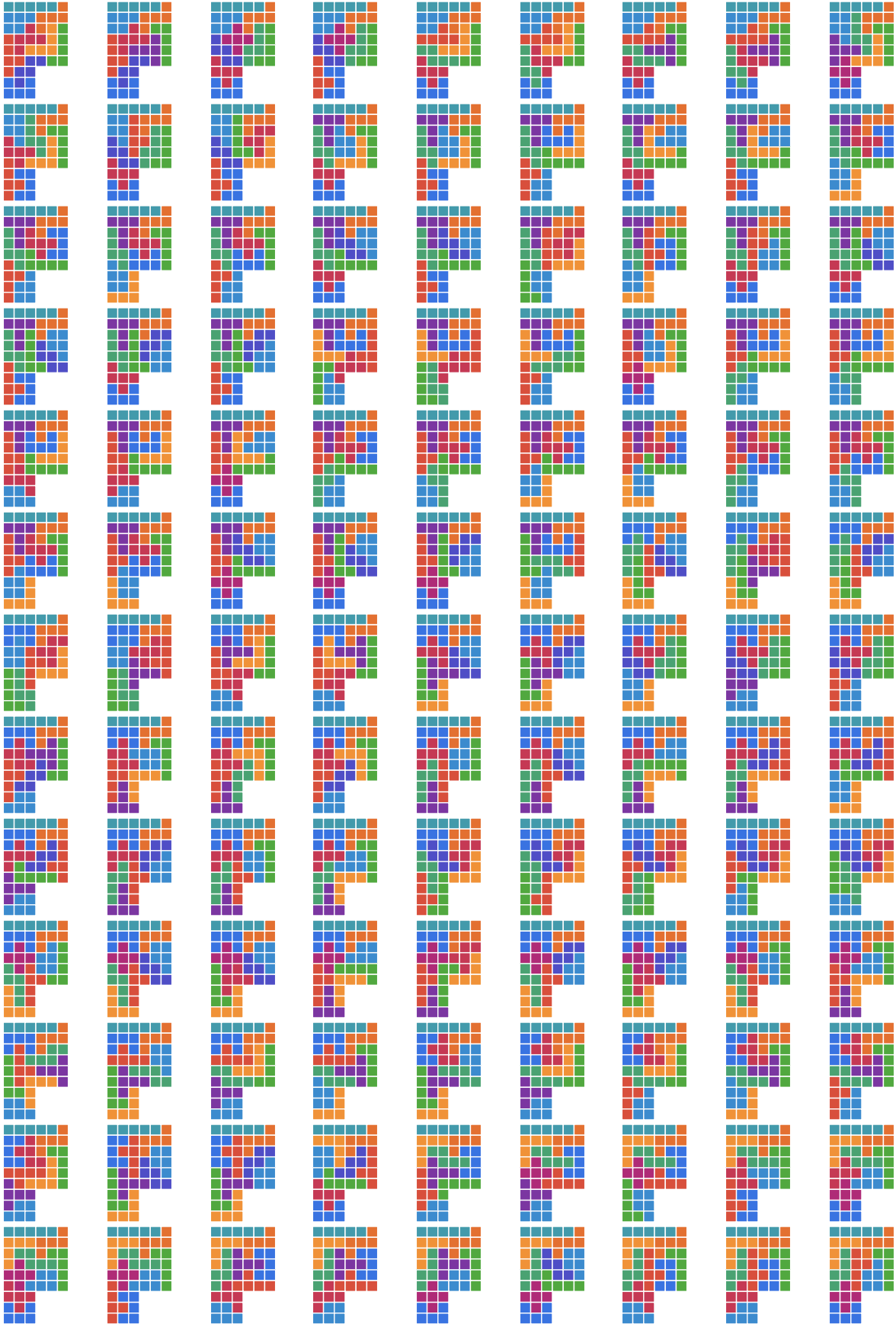


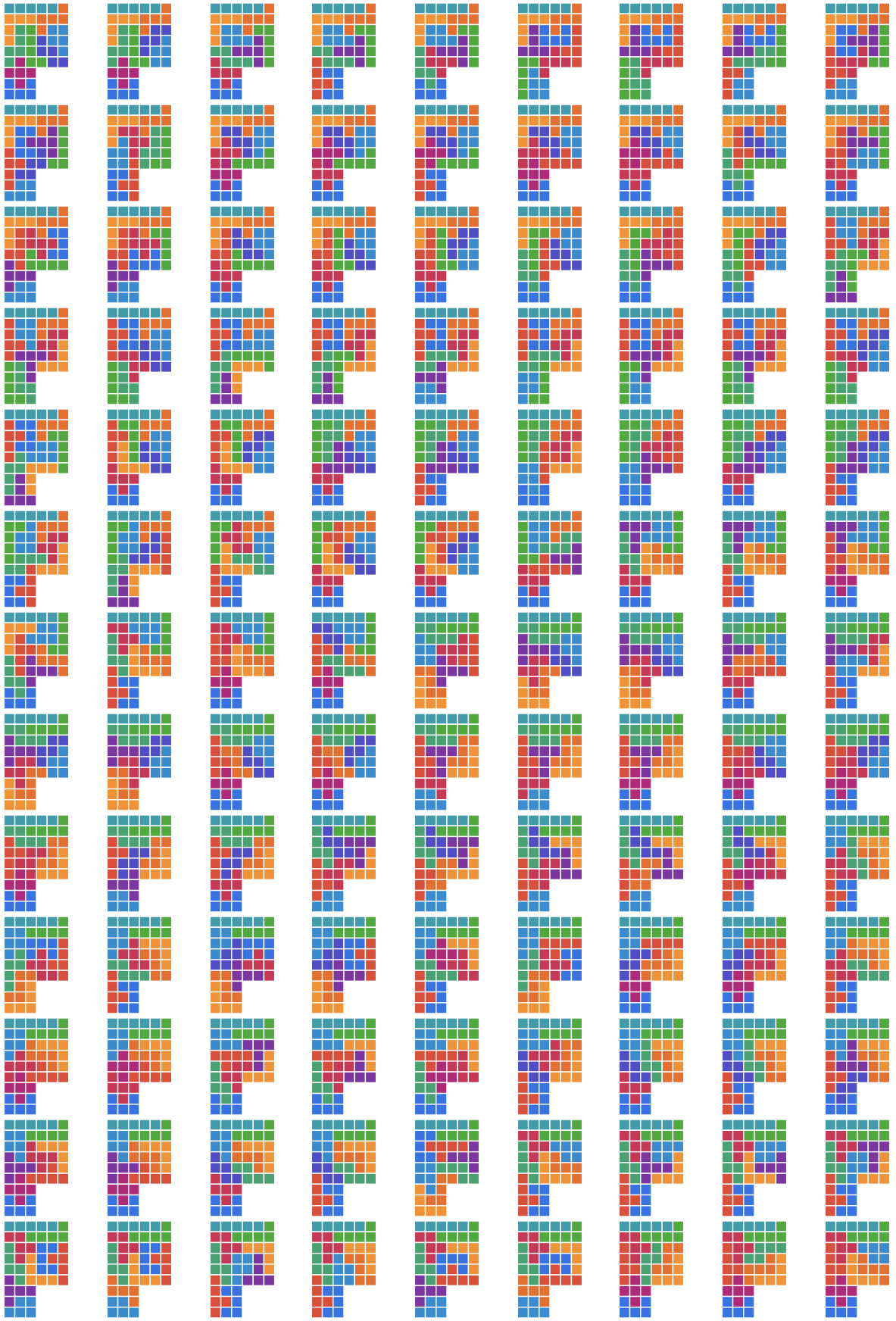


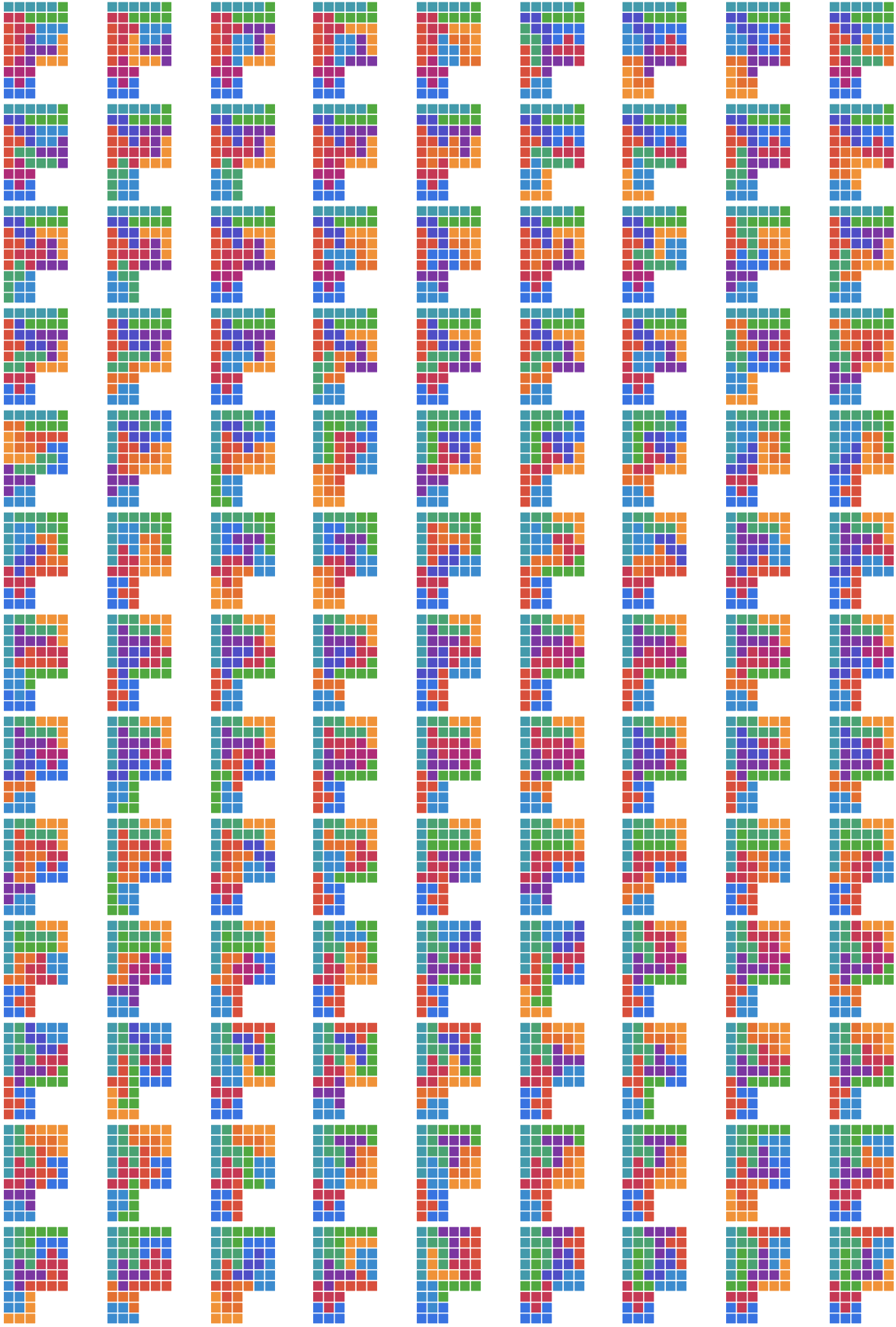


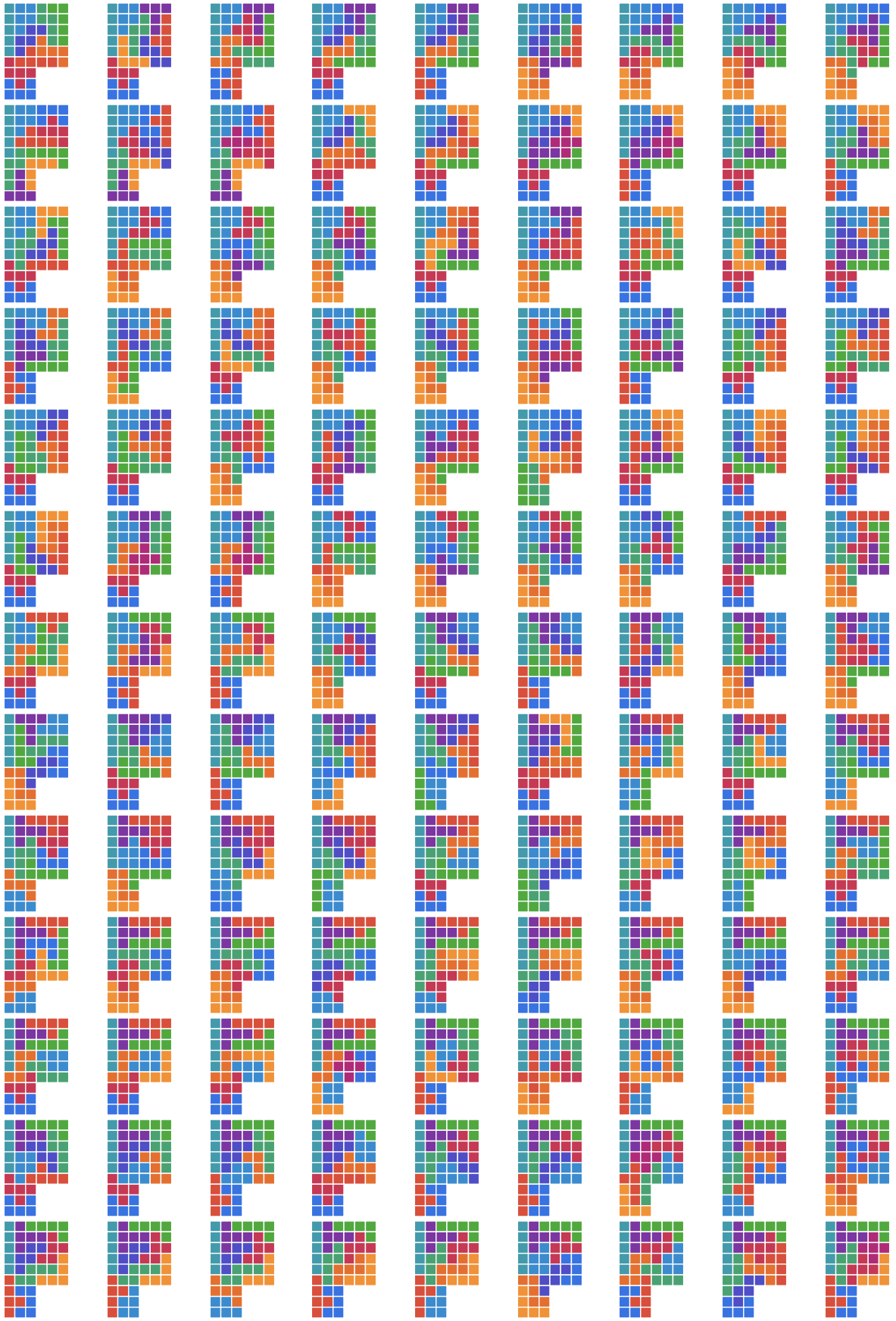


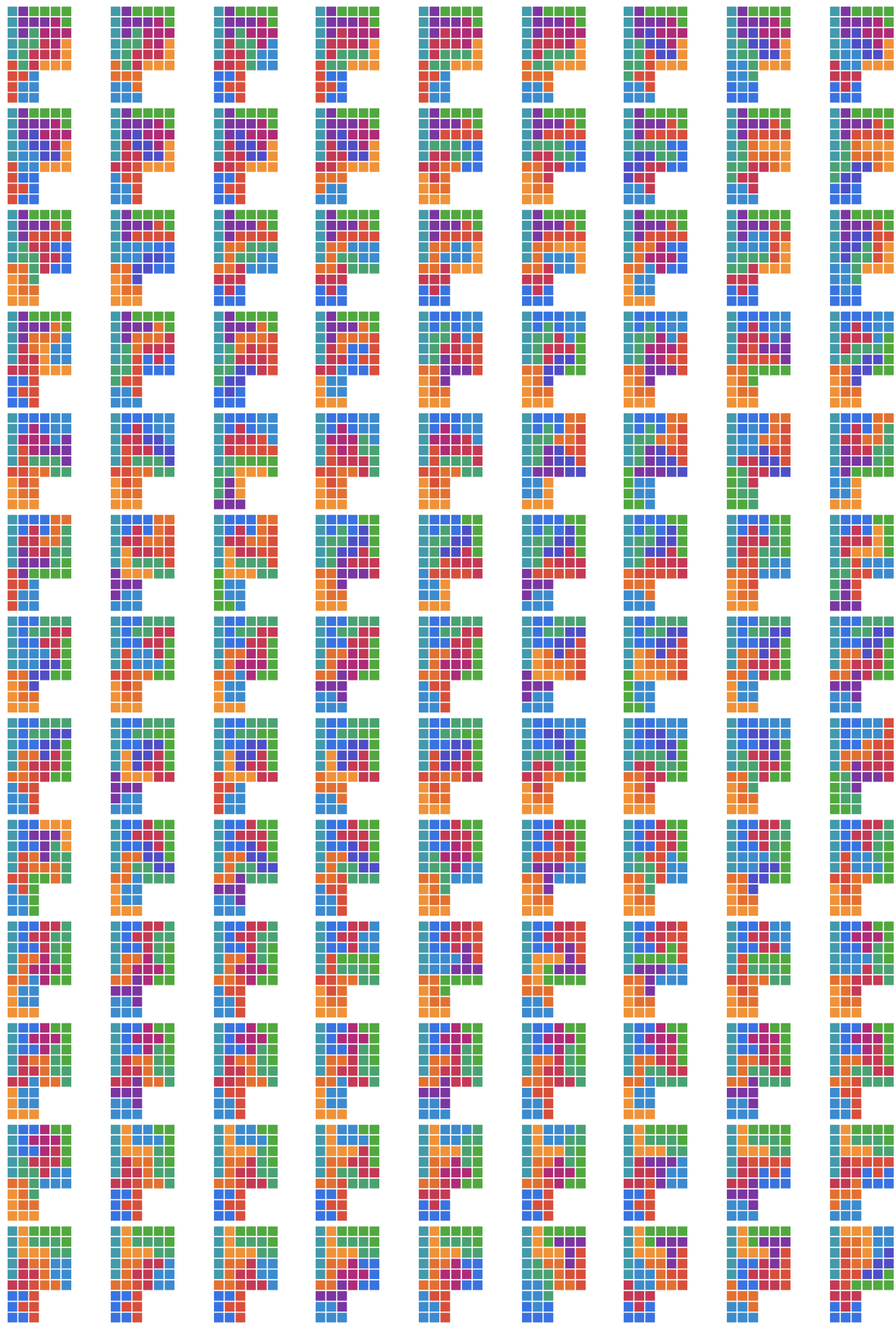


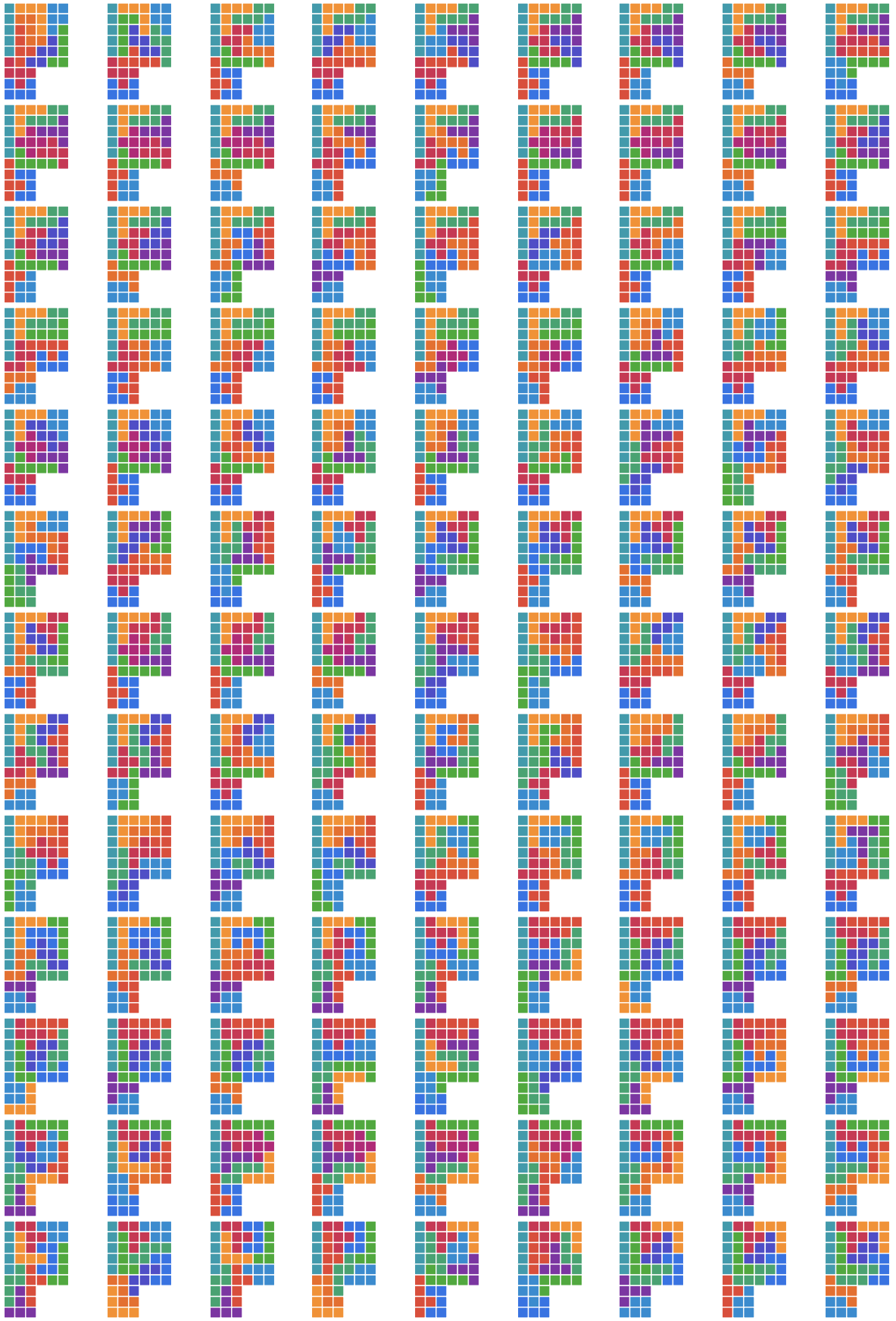


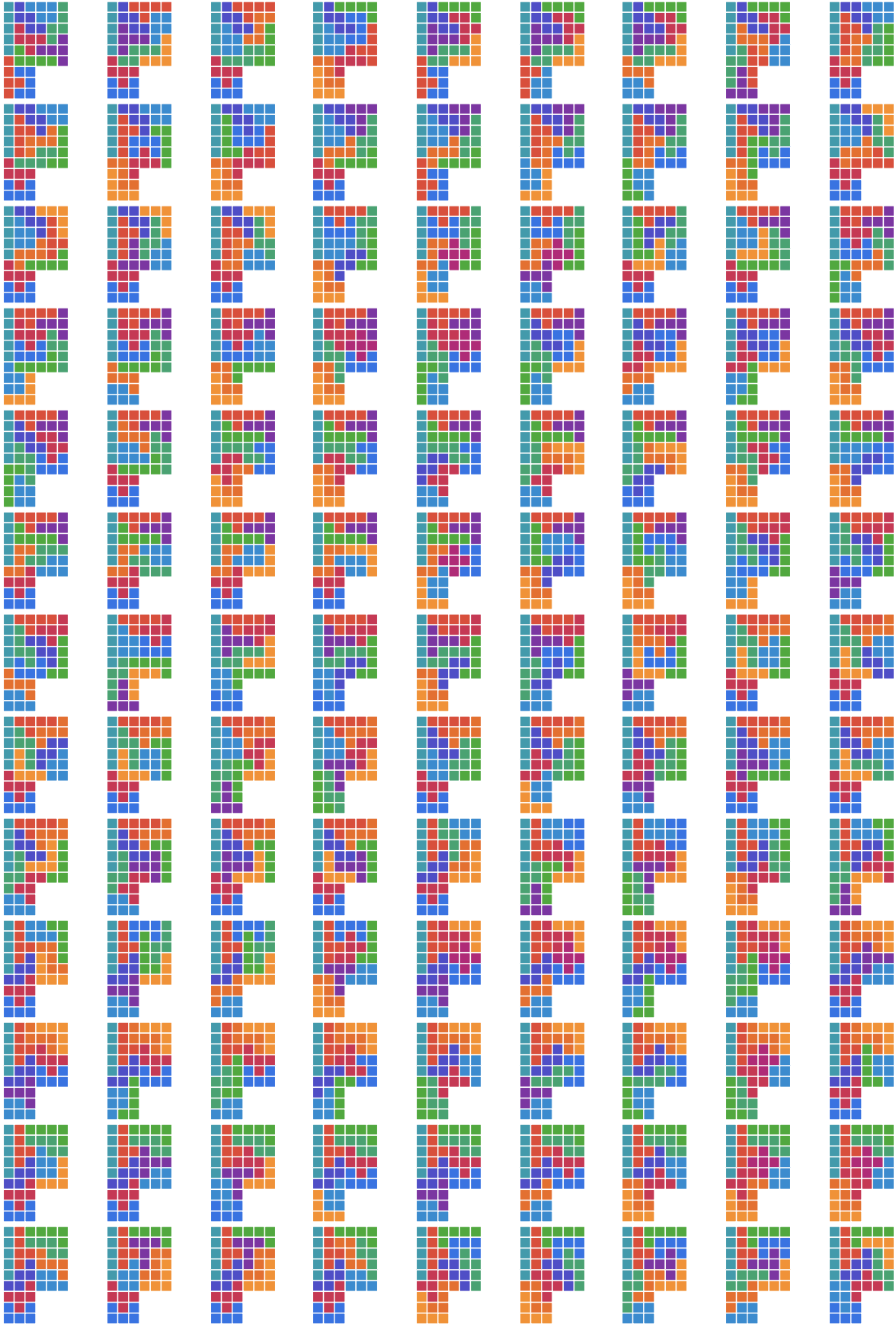


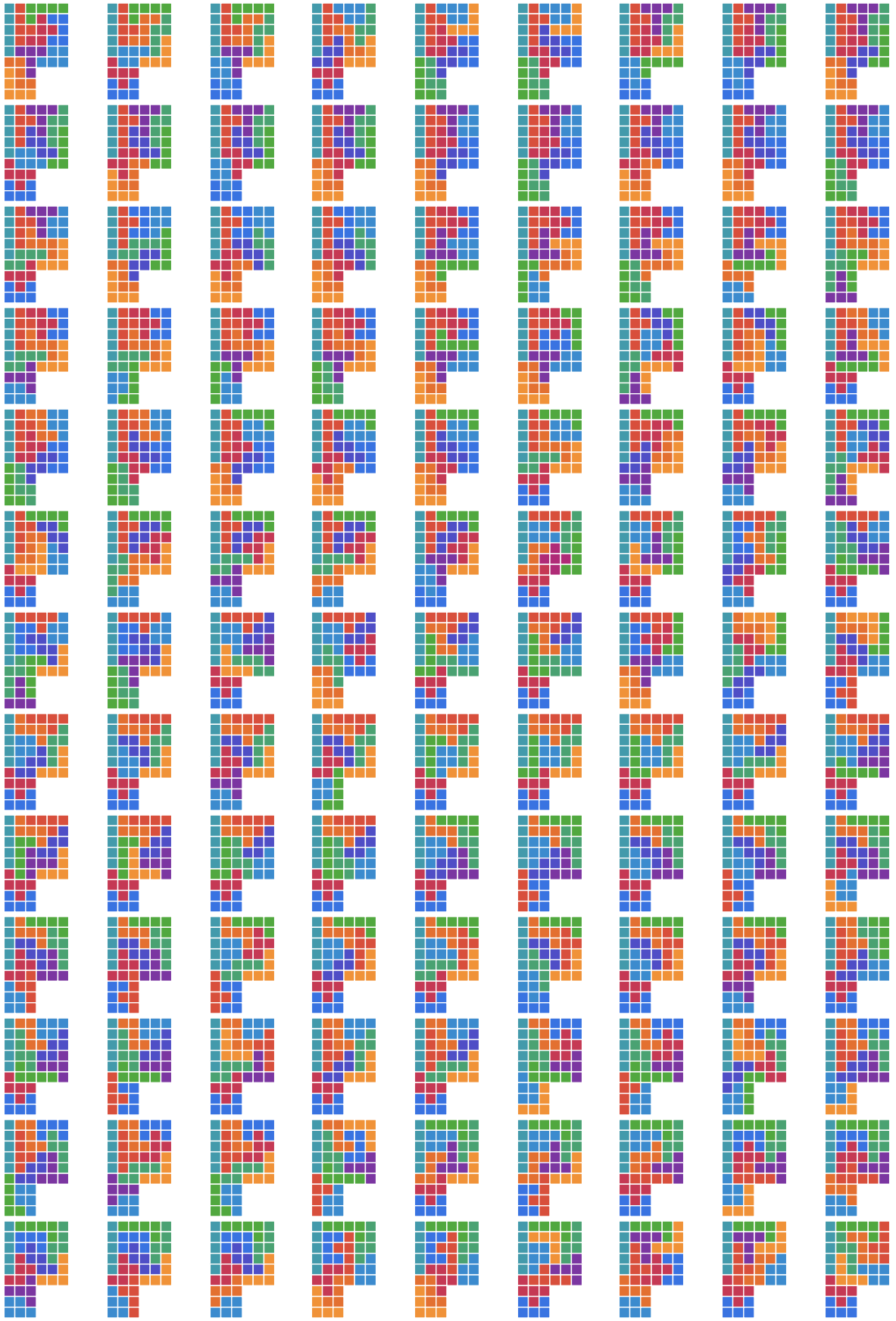


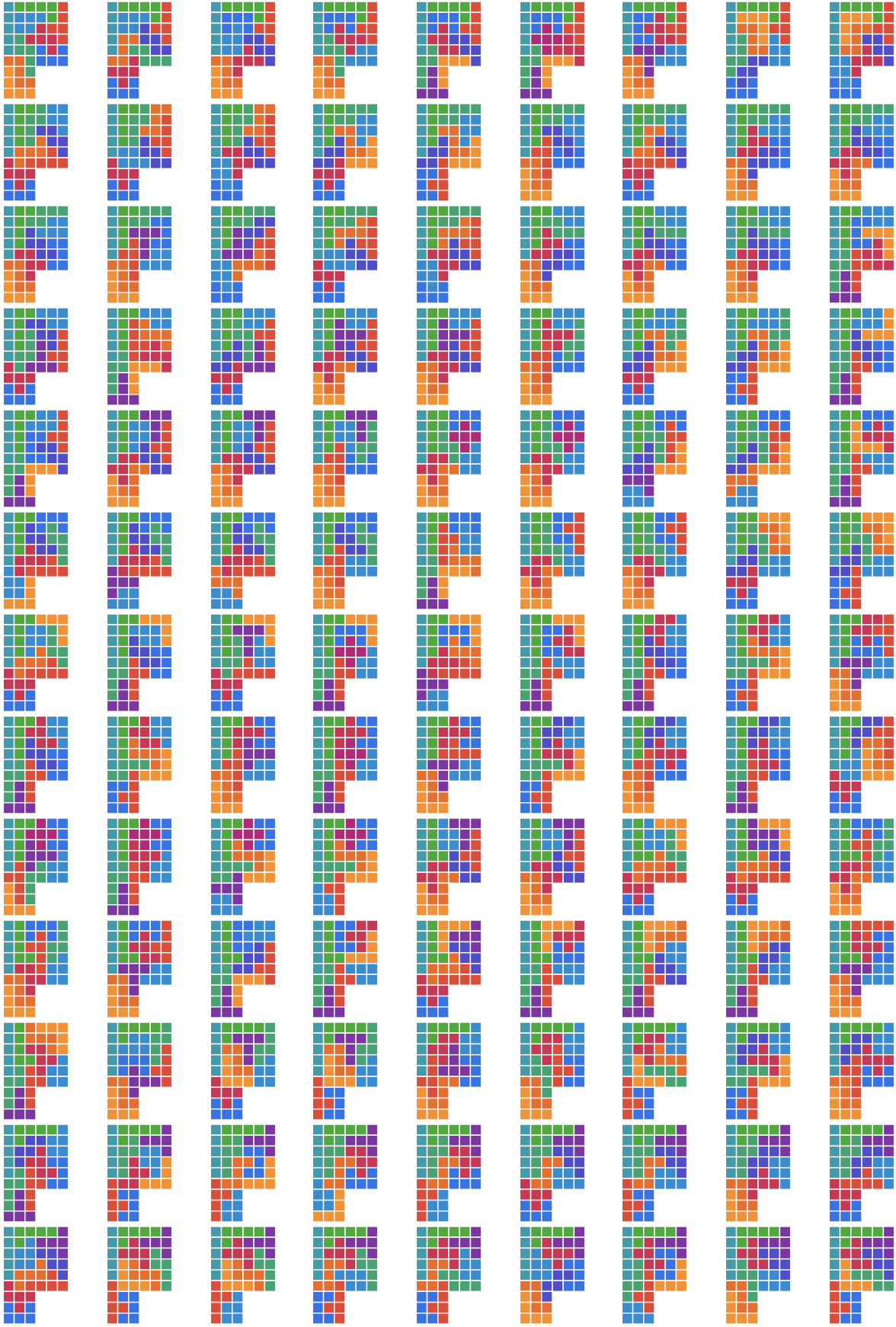


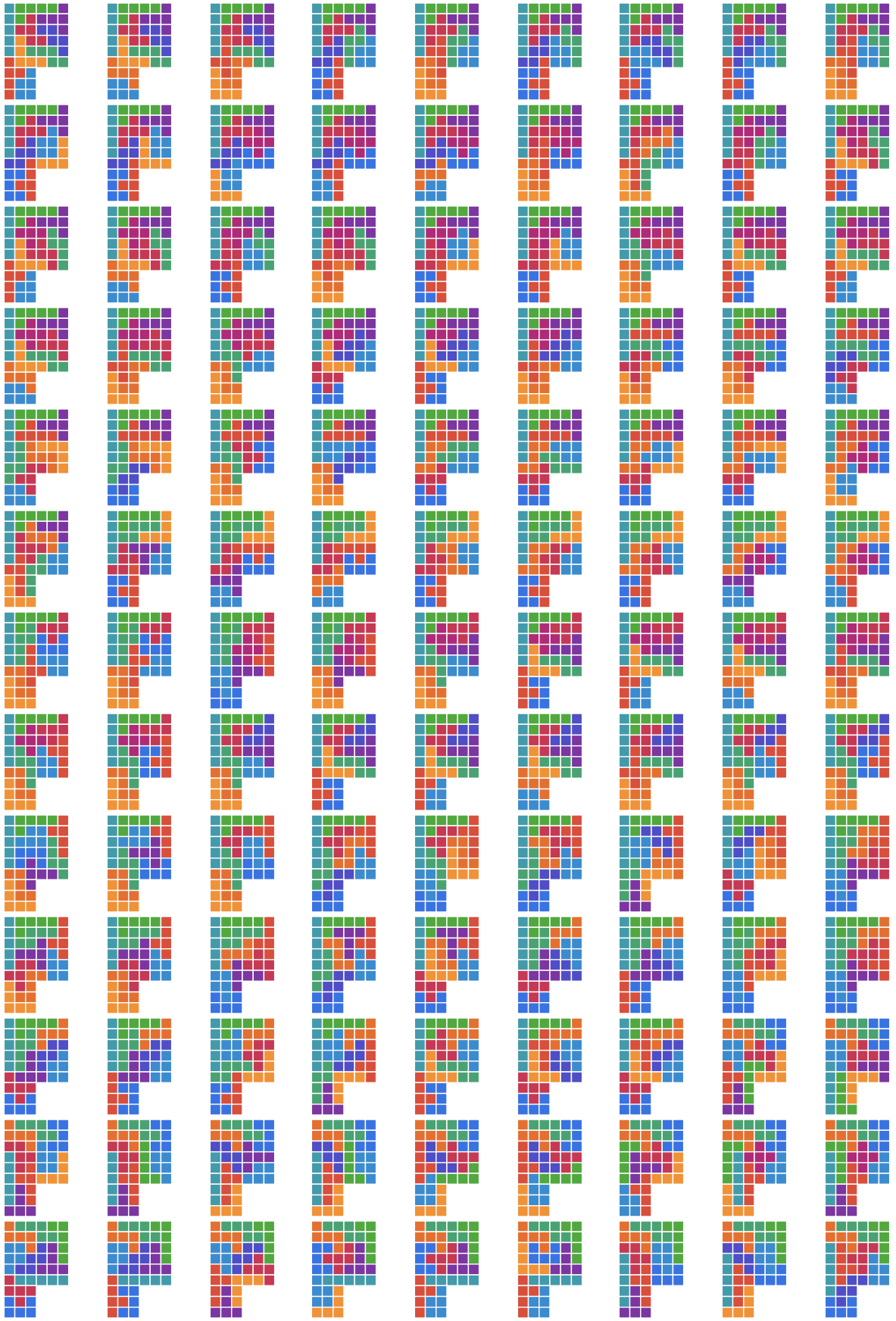


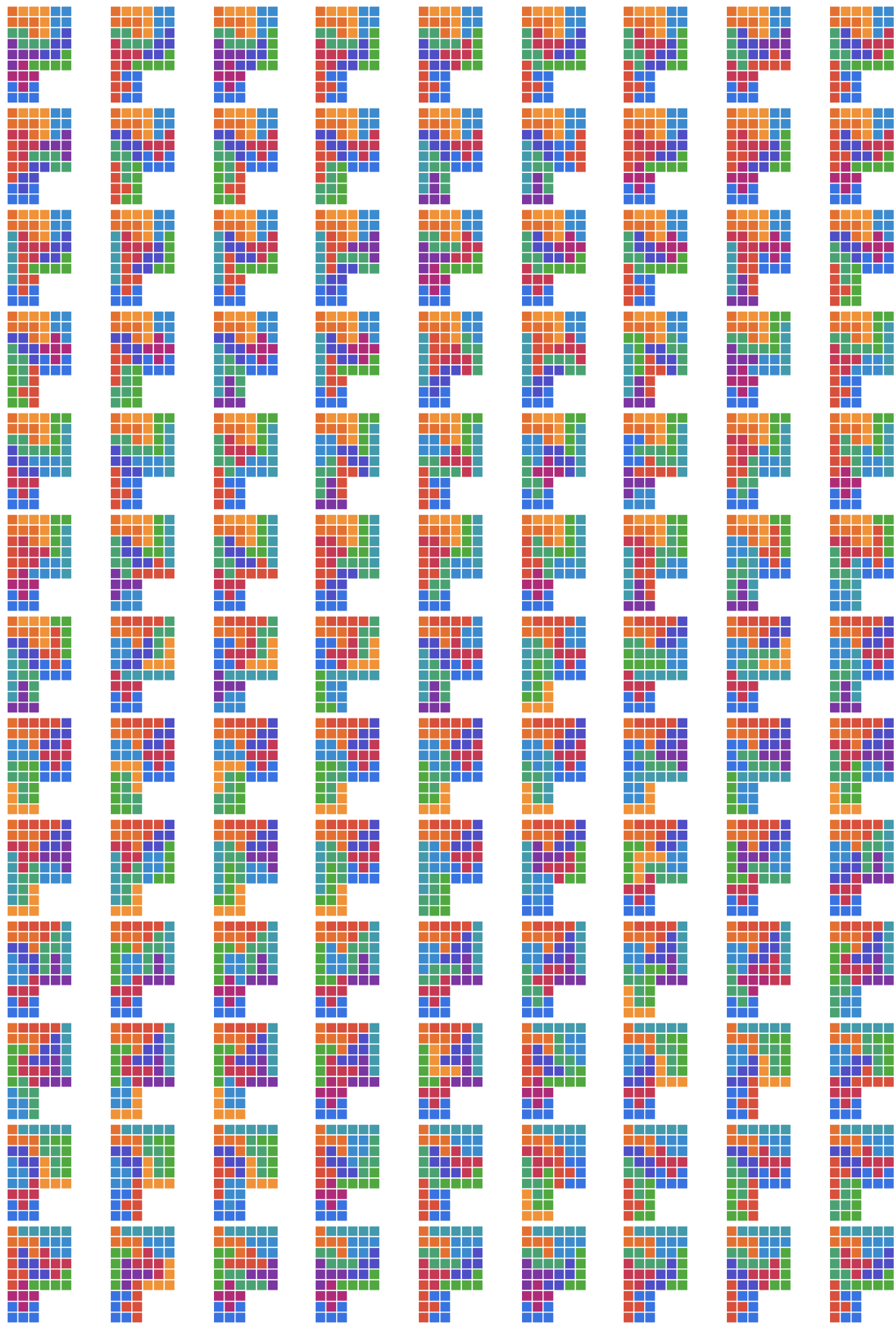


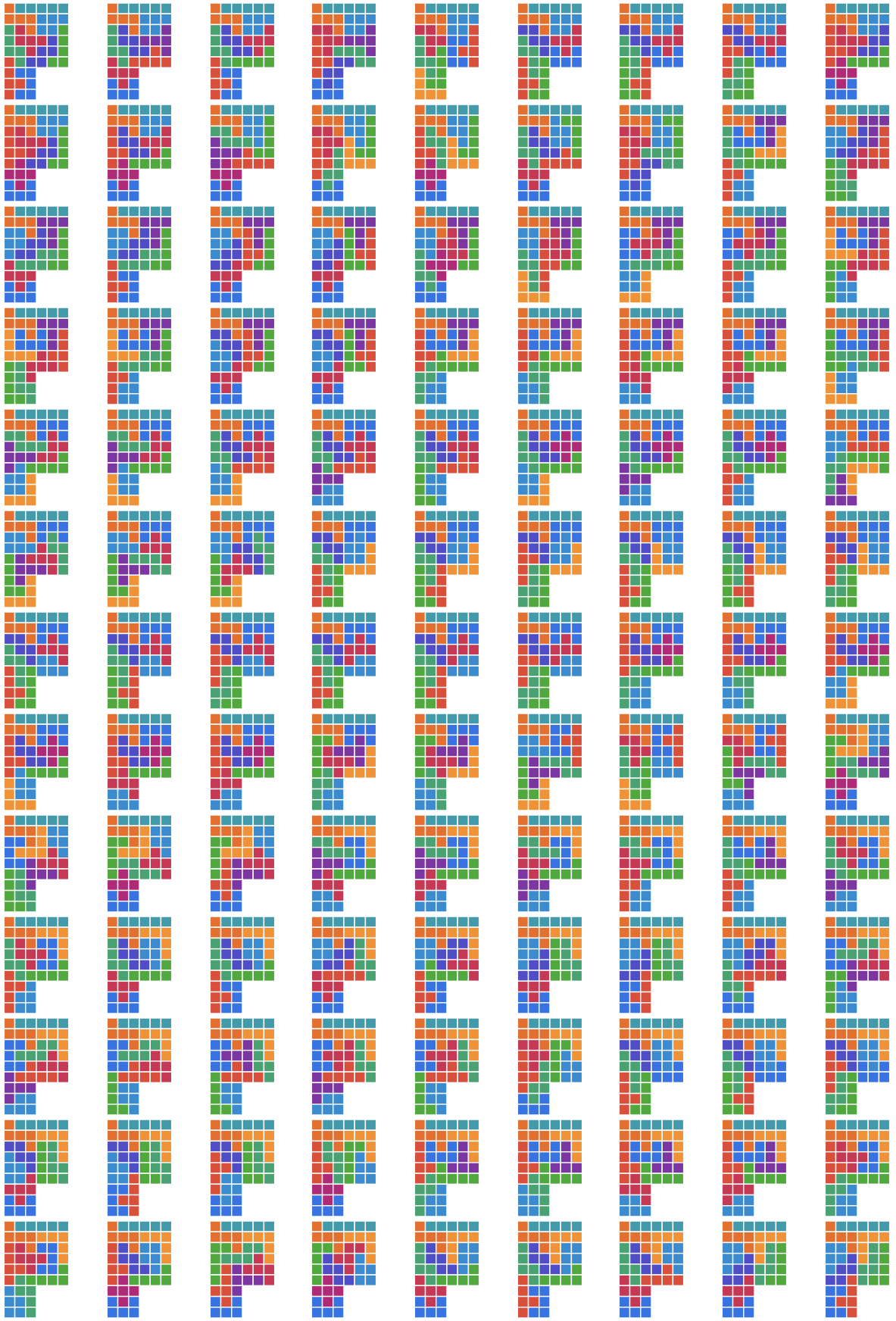


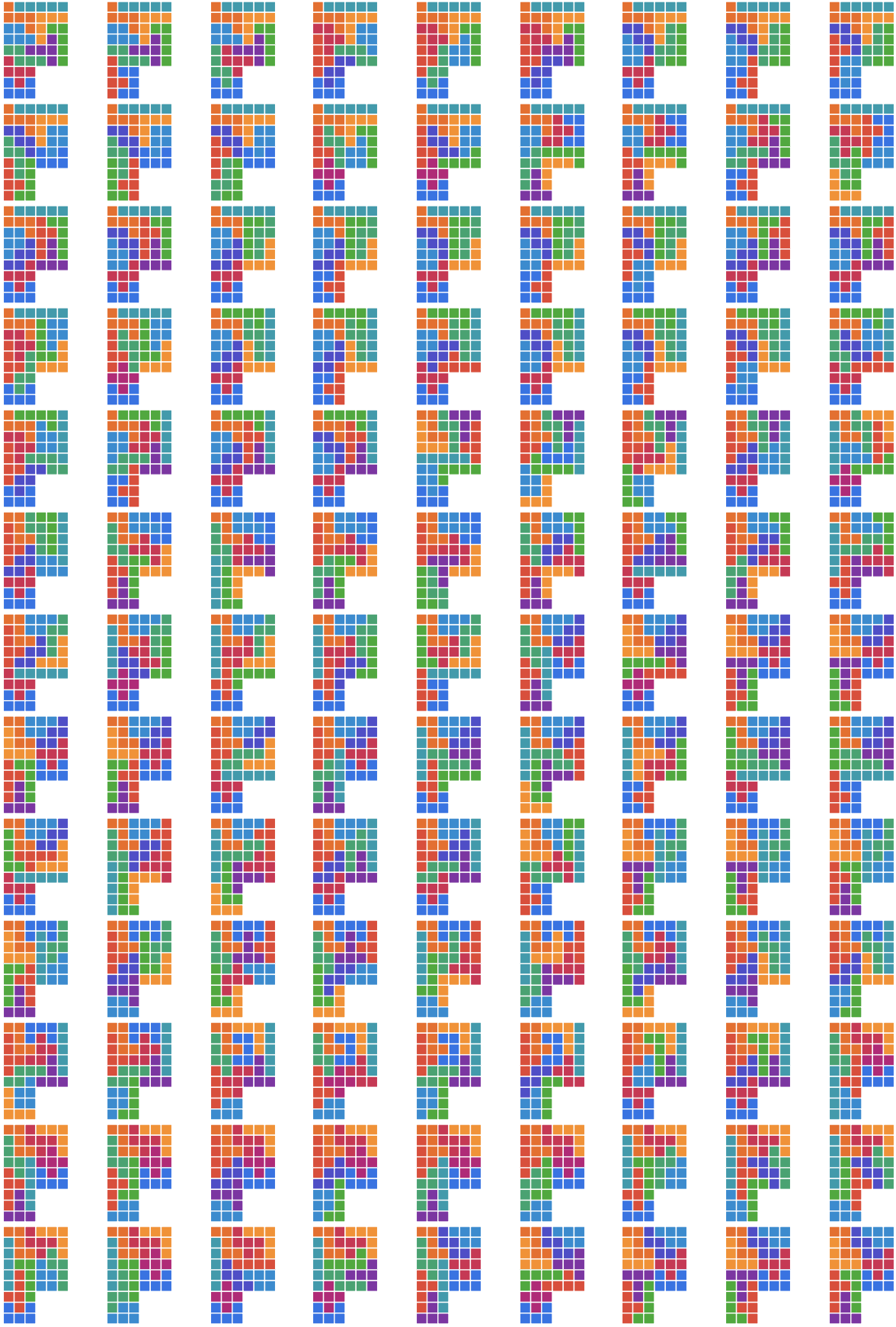


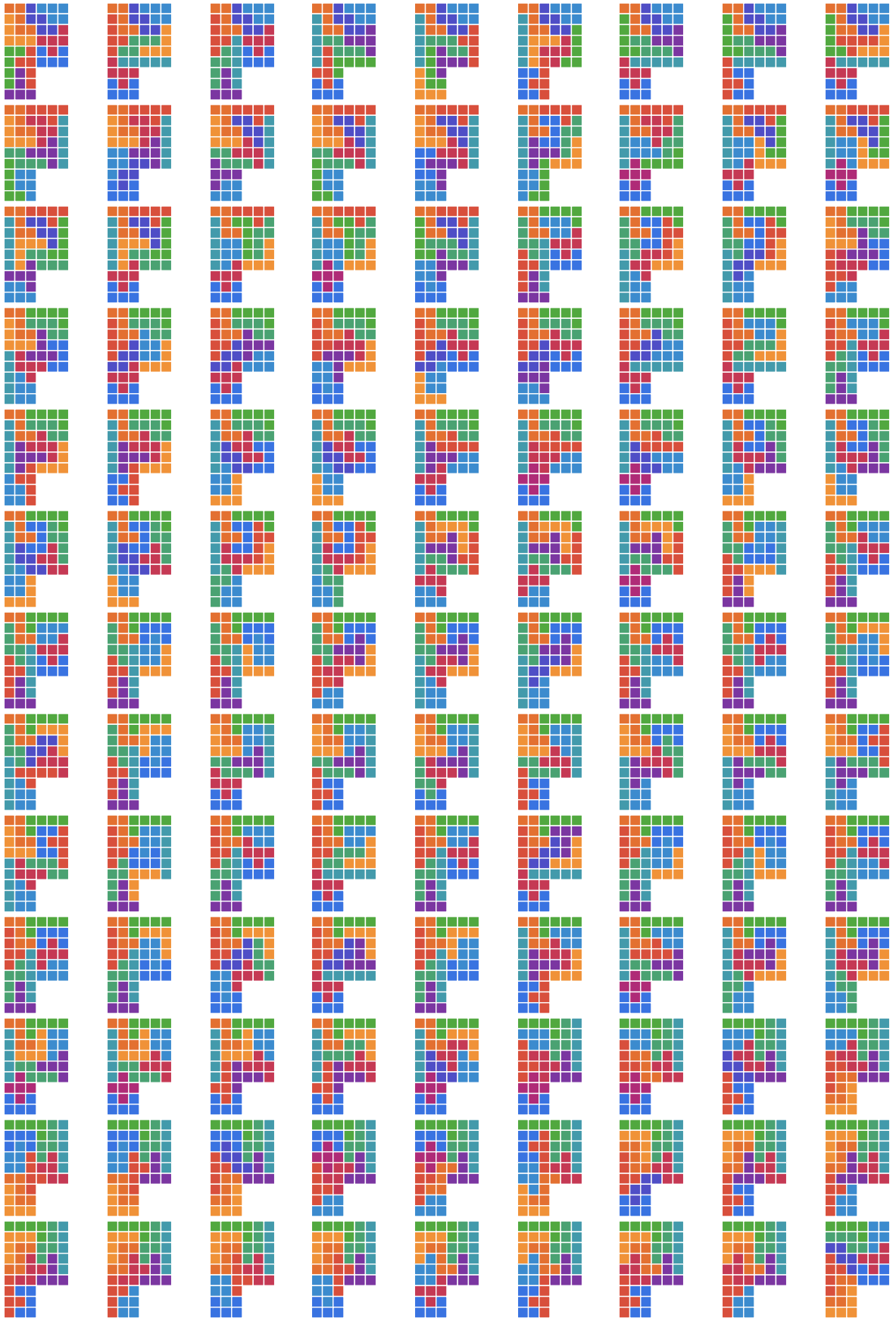


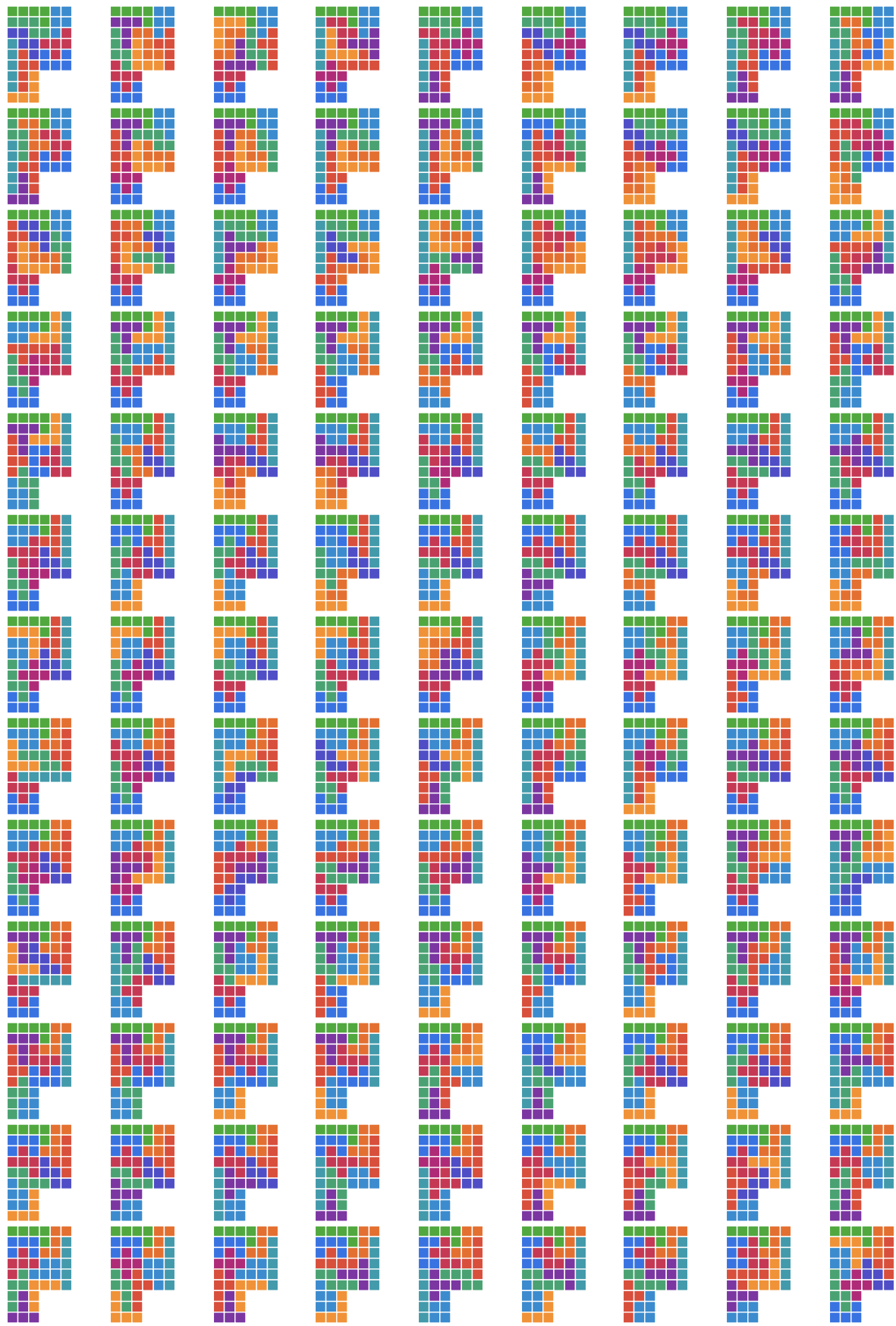


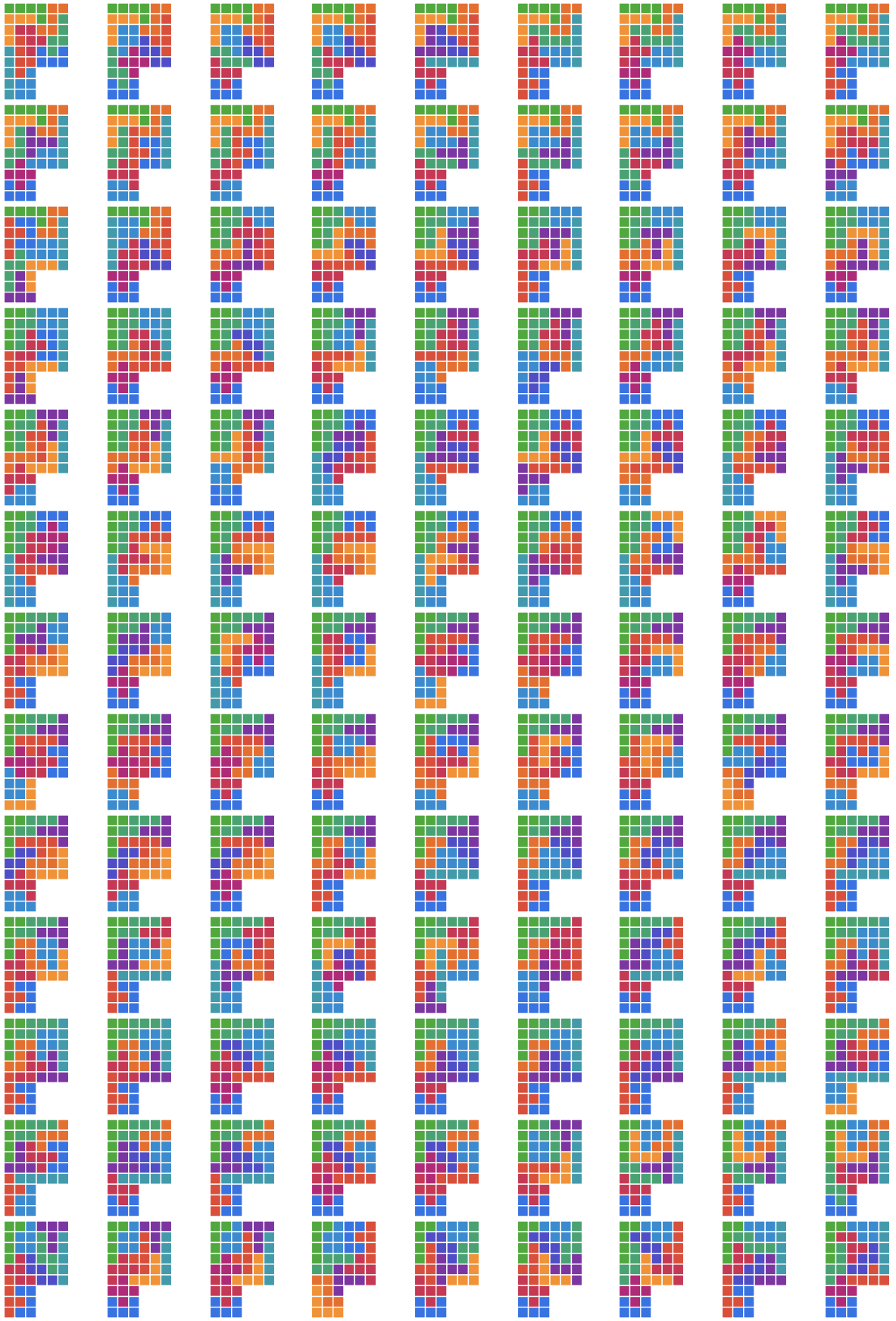


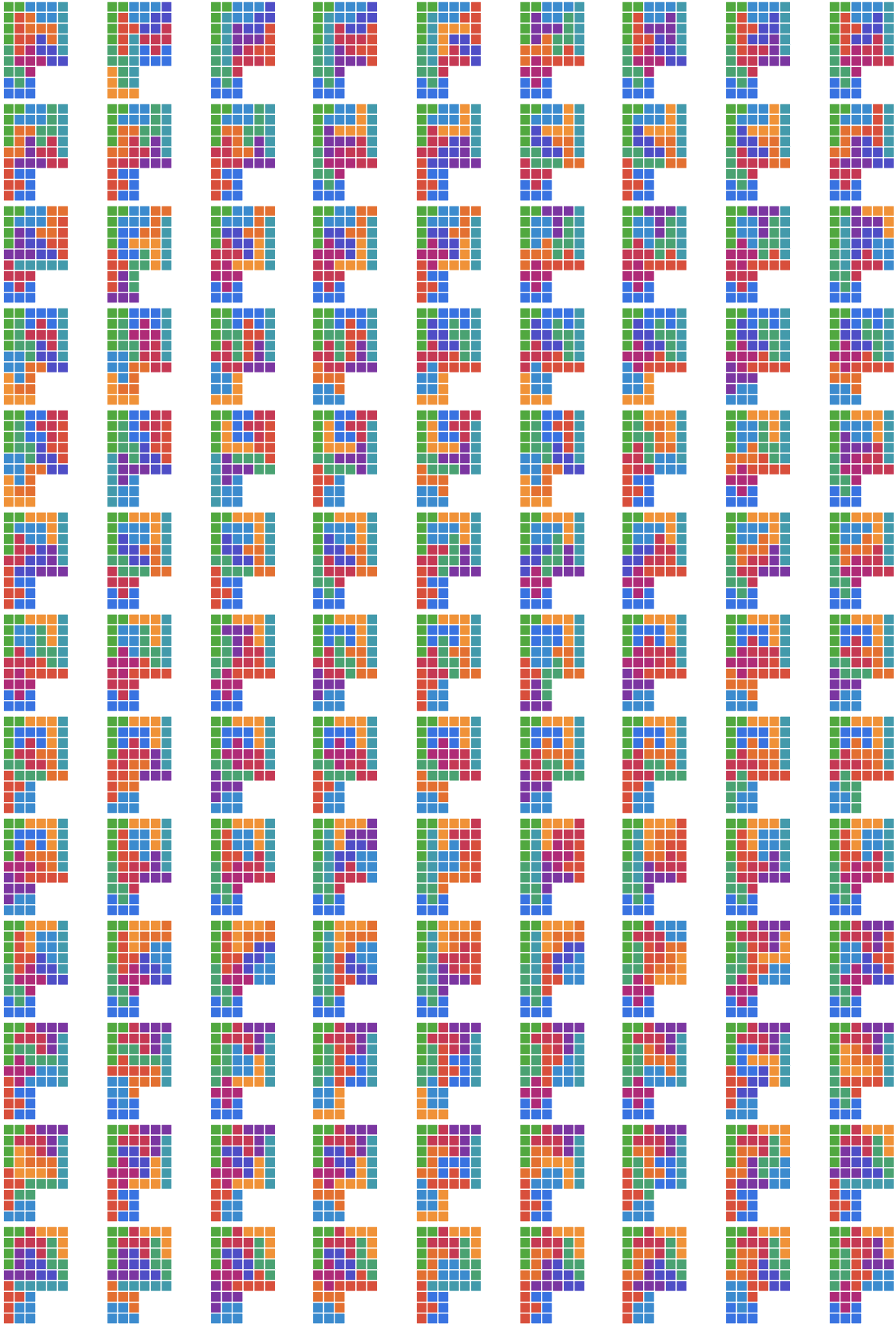


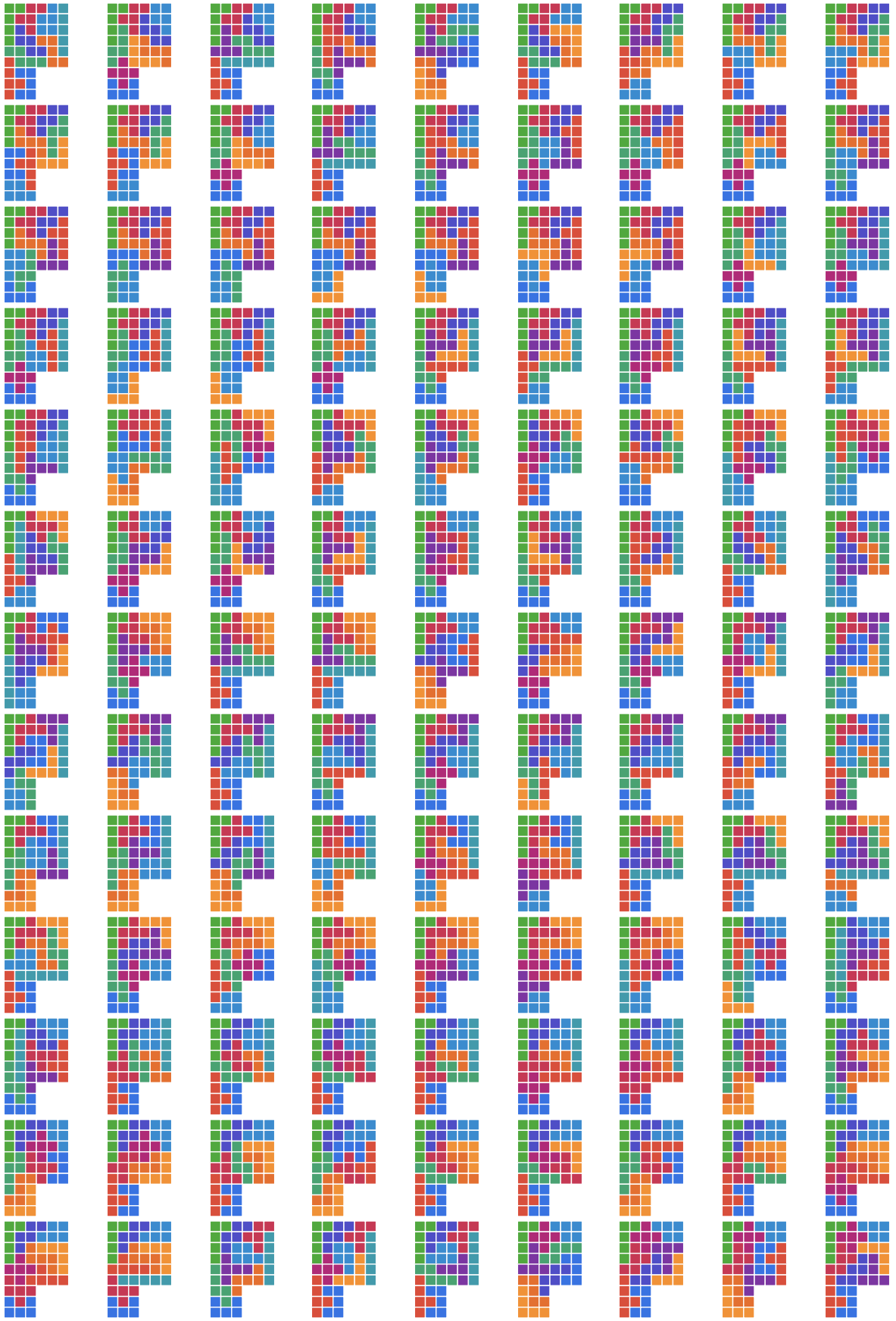


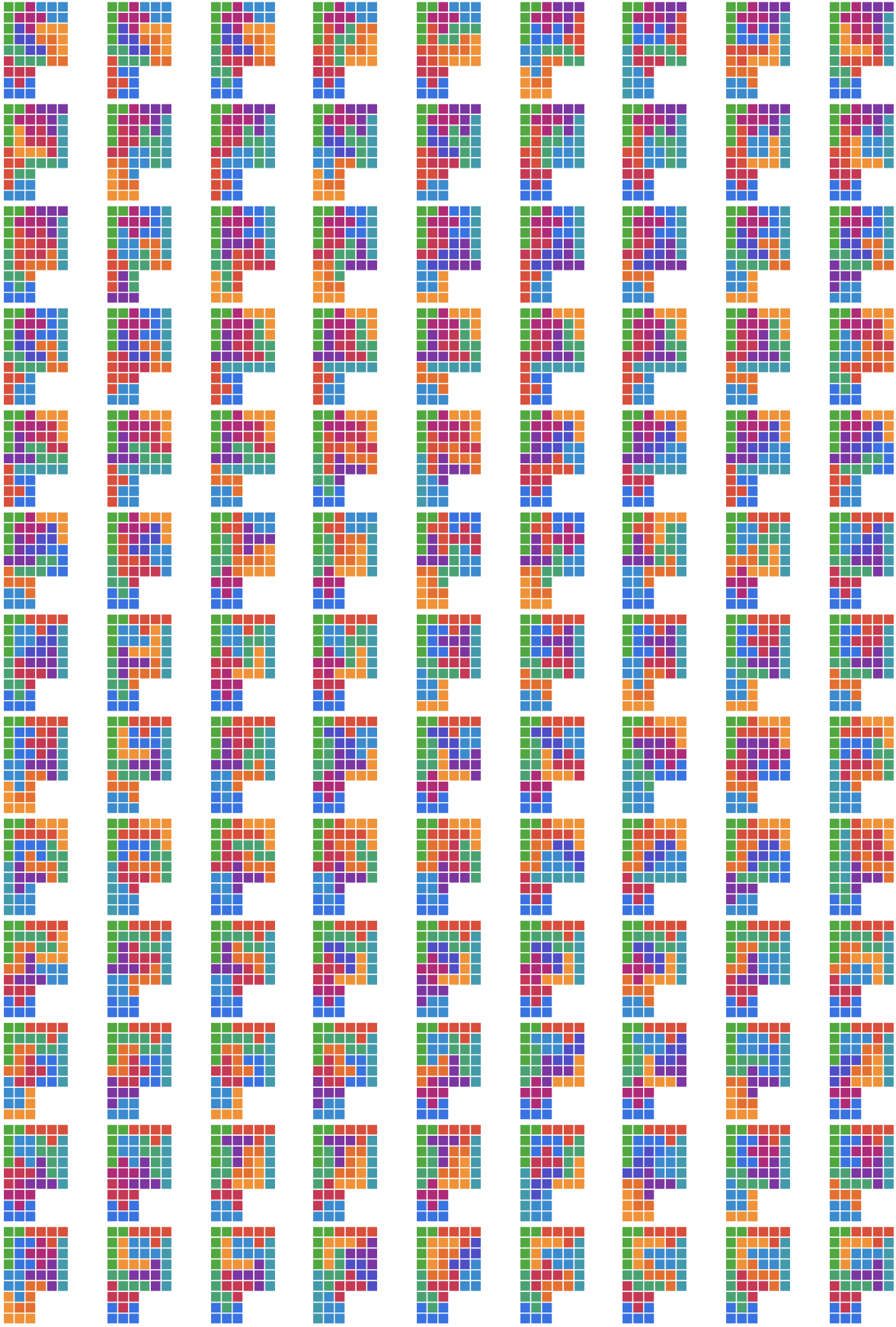


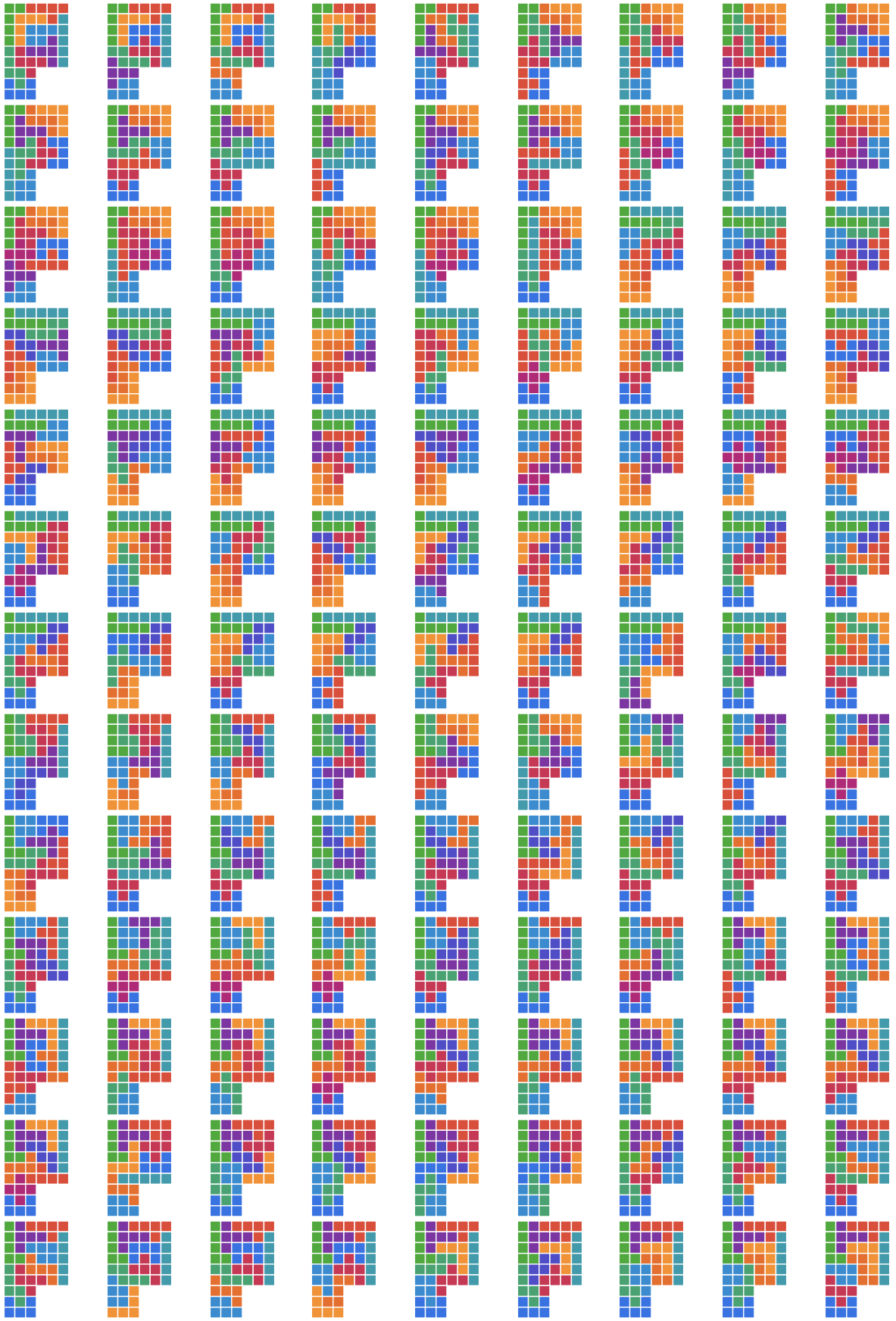


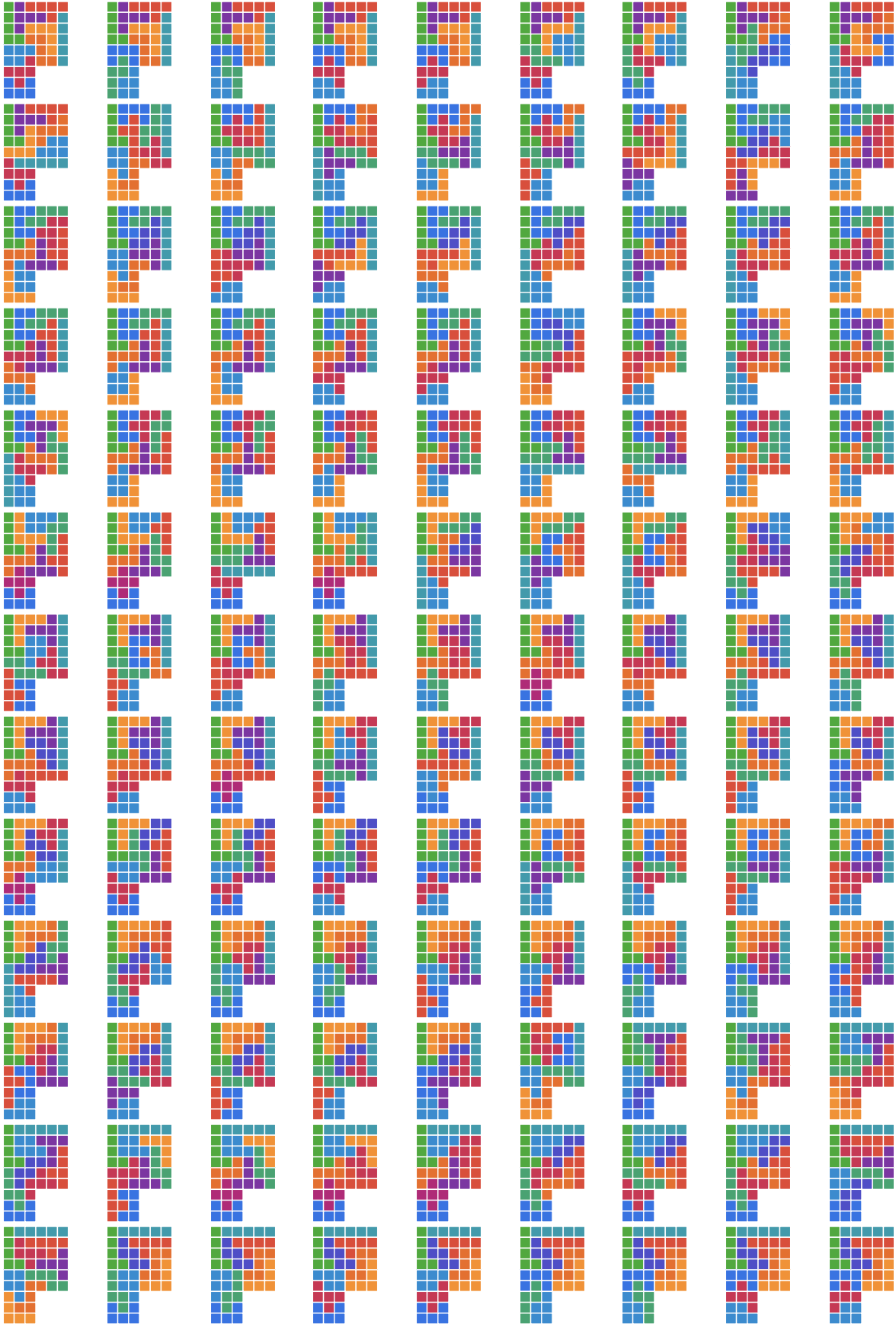


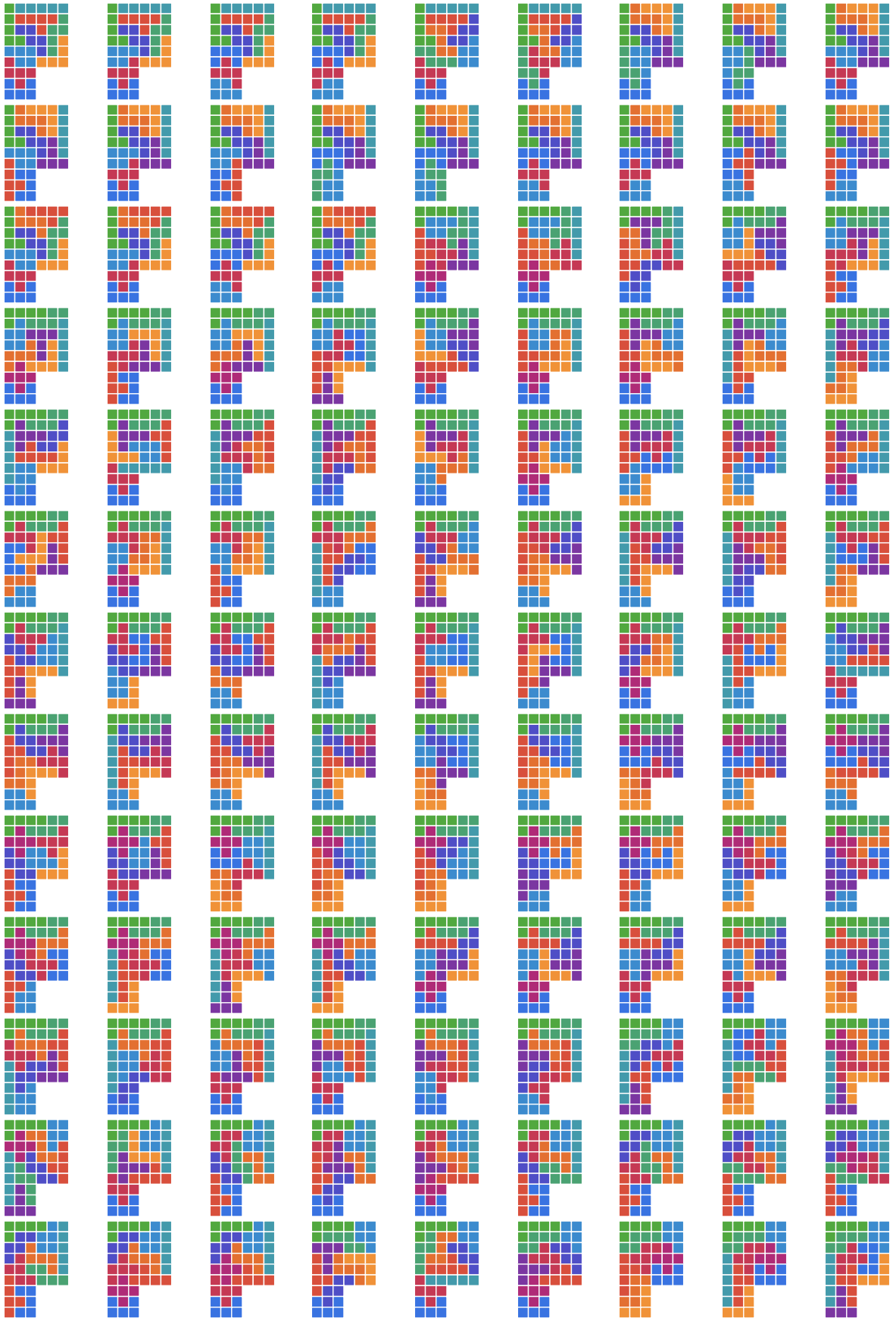


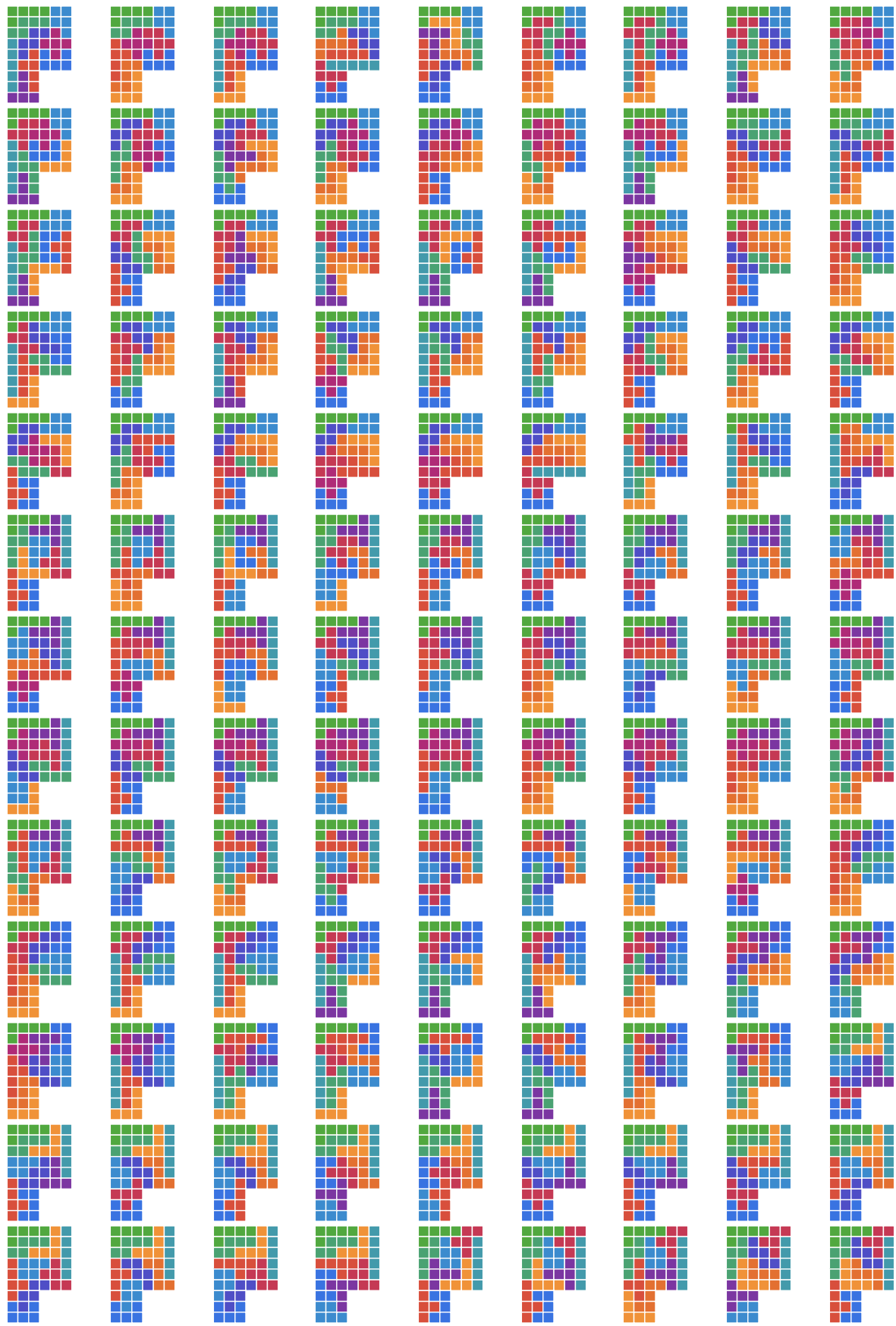


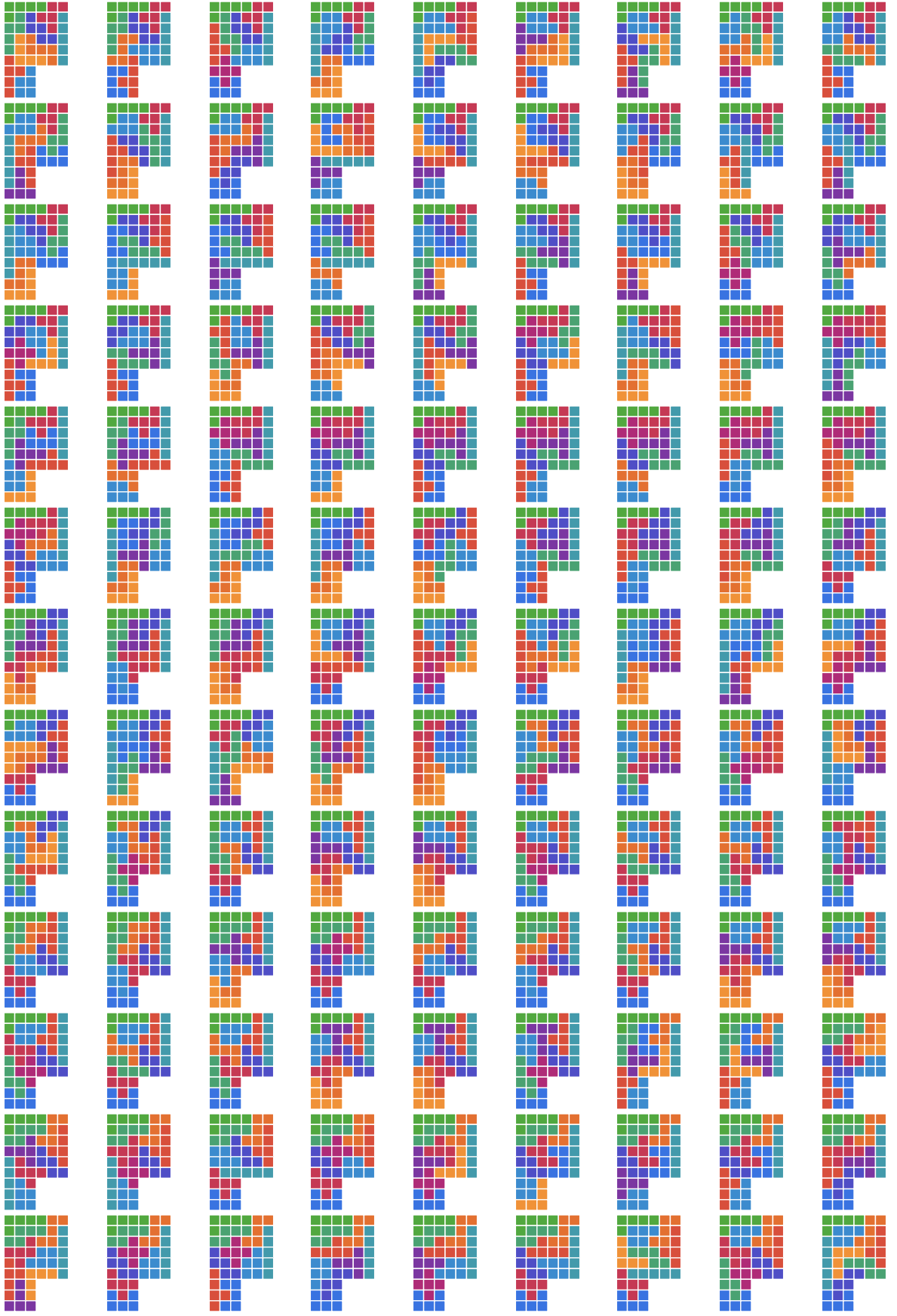


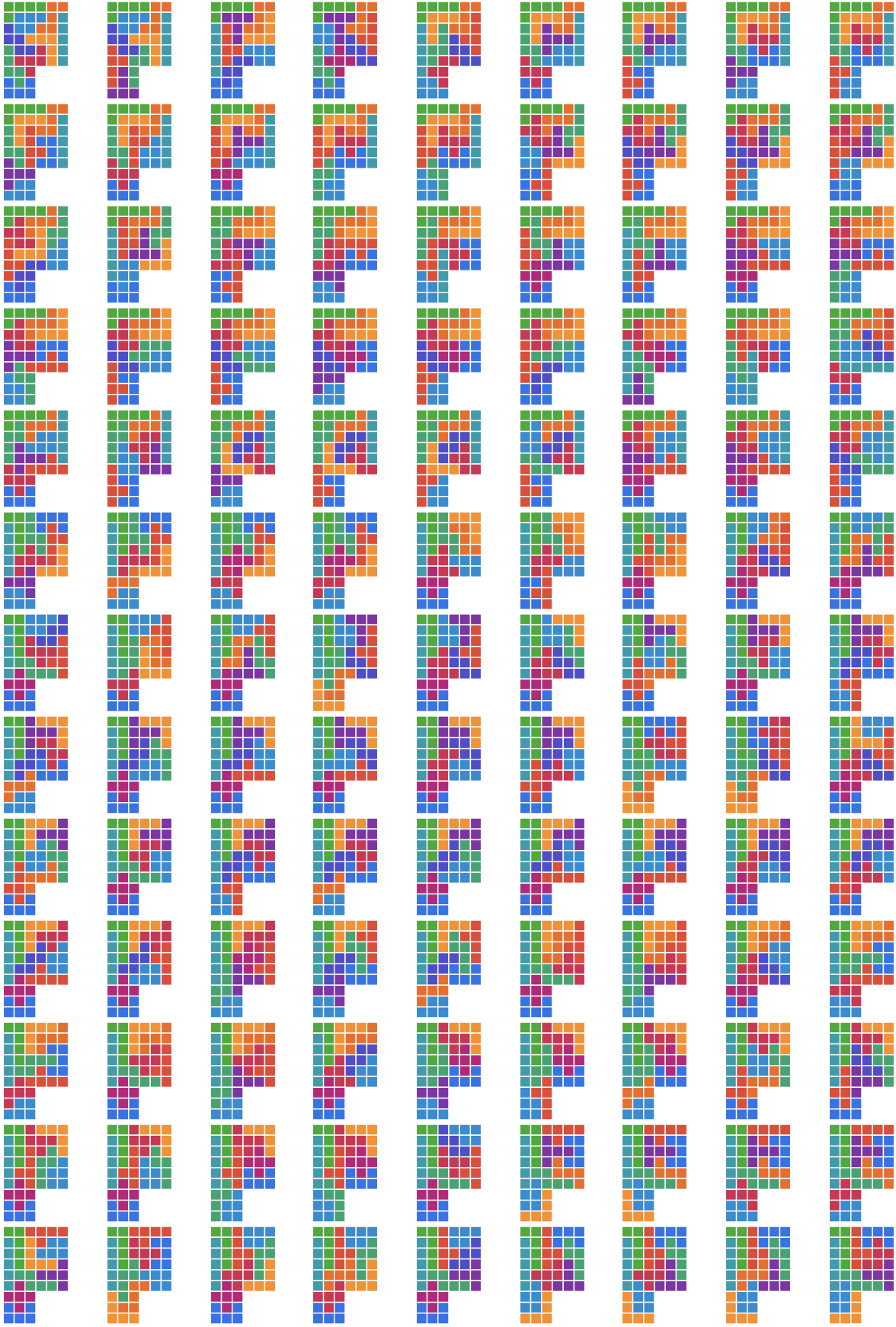


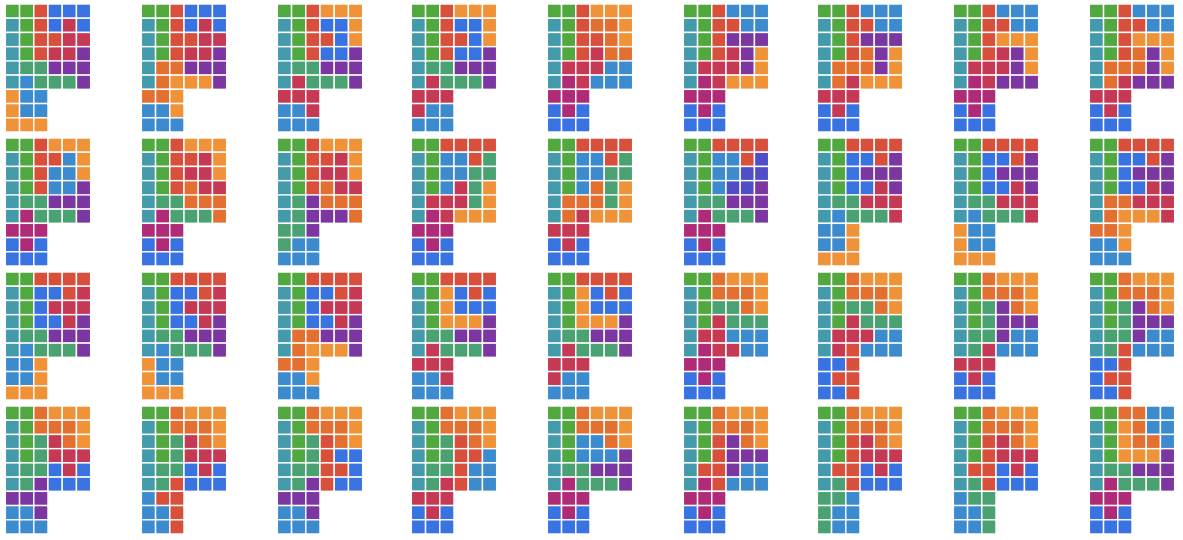


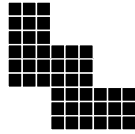






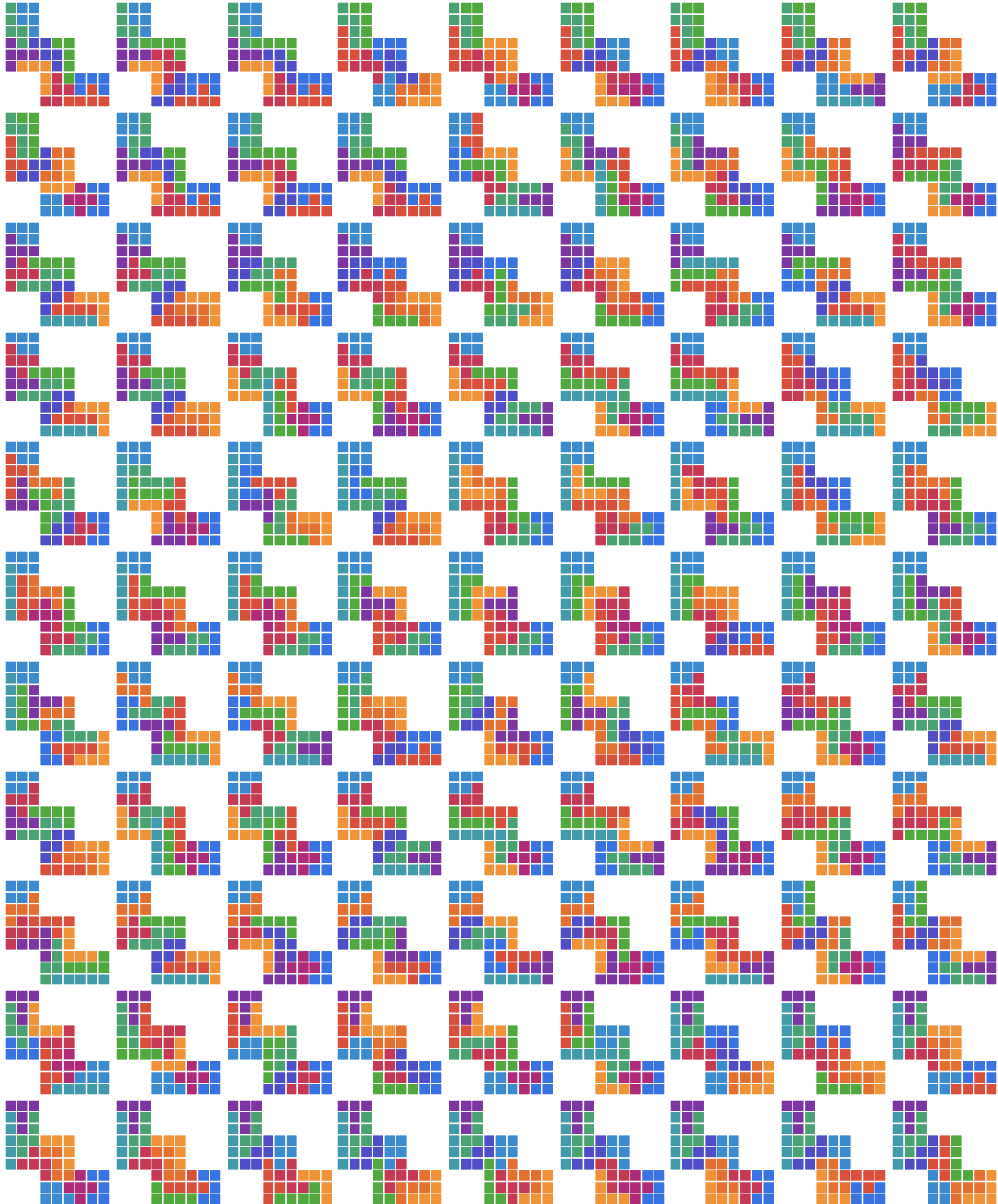


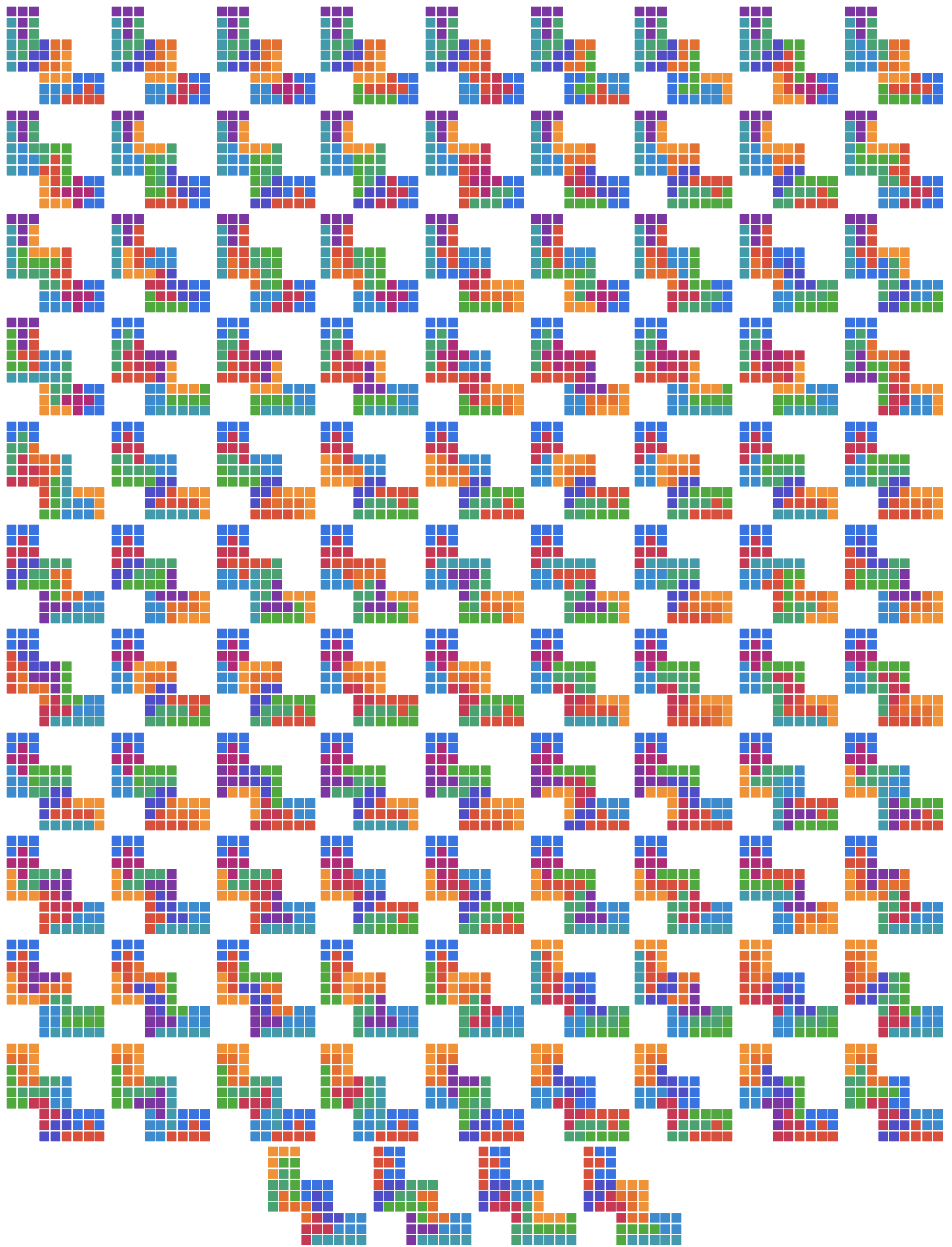




triple-w

202 Solutions



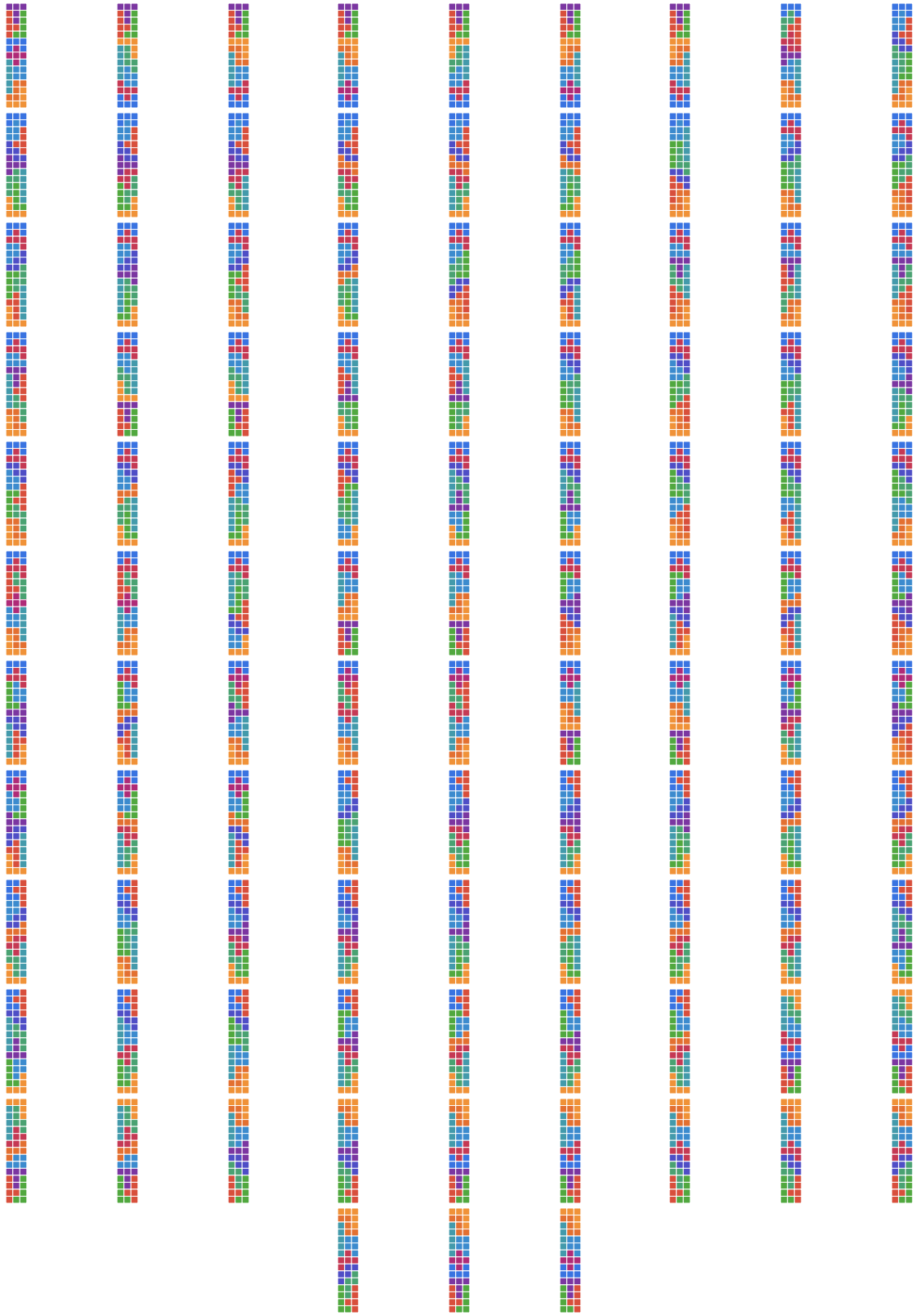


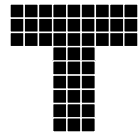


triple-i

201 Solutions

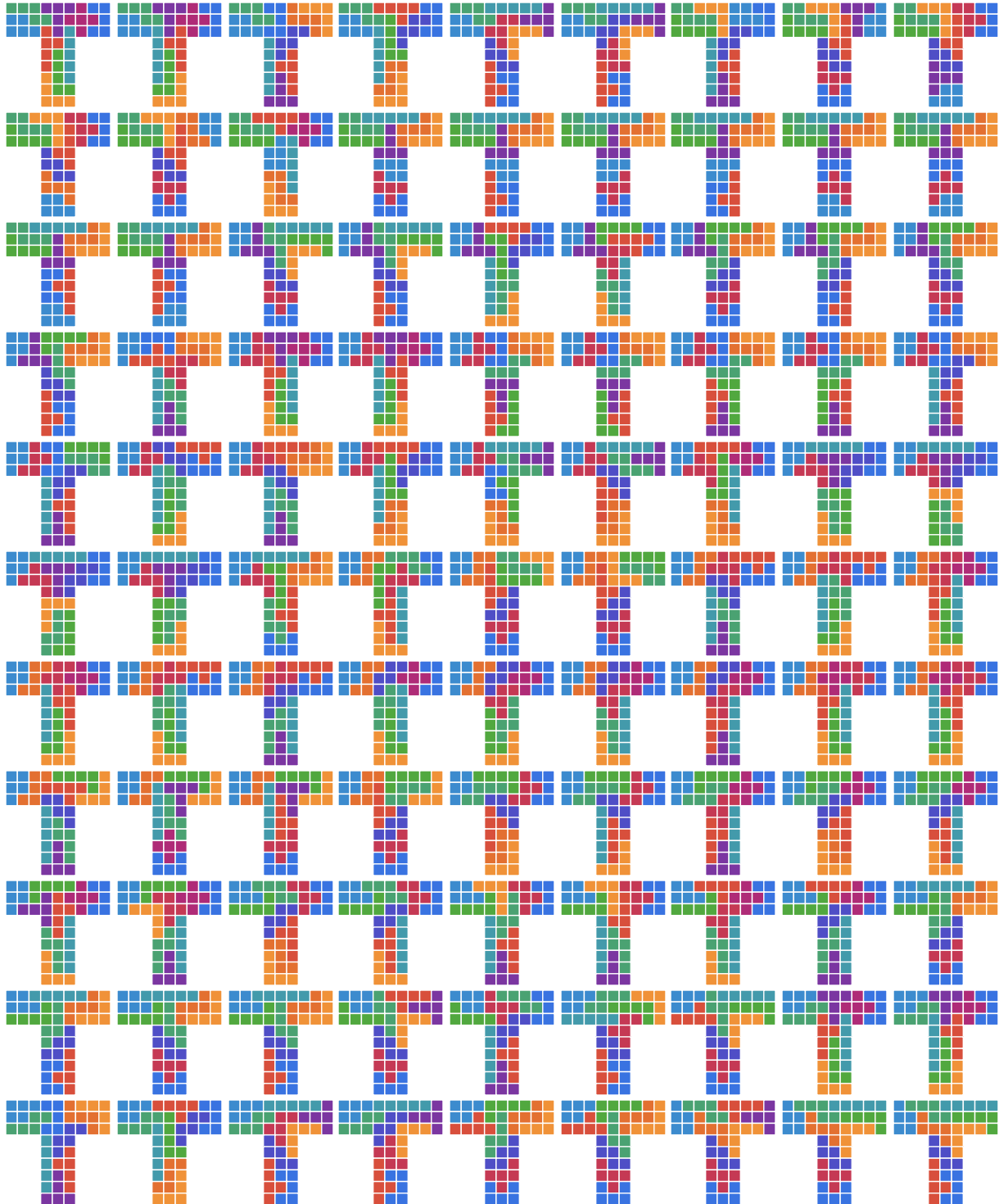


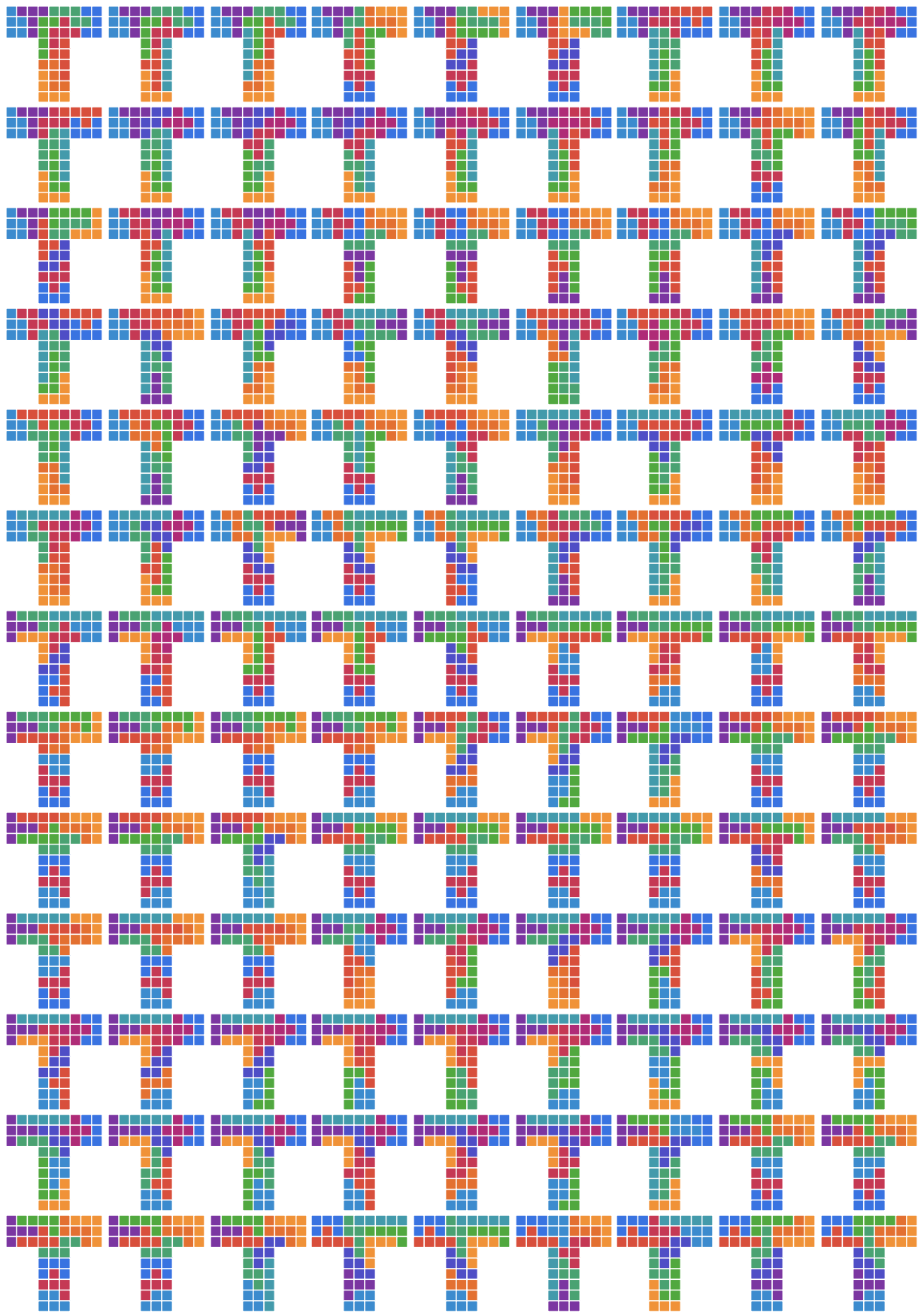


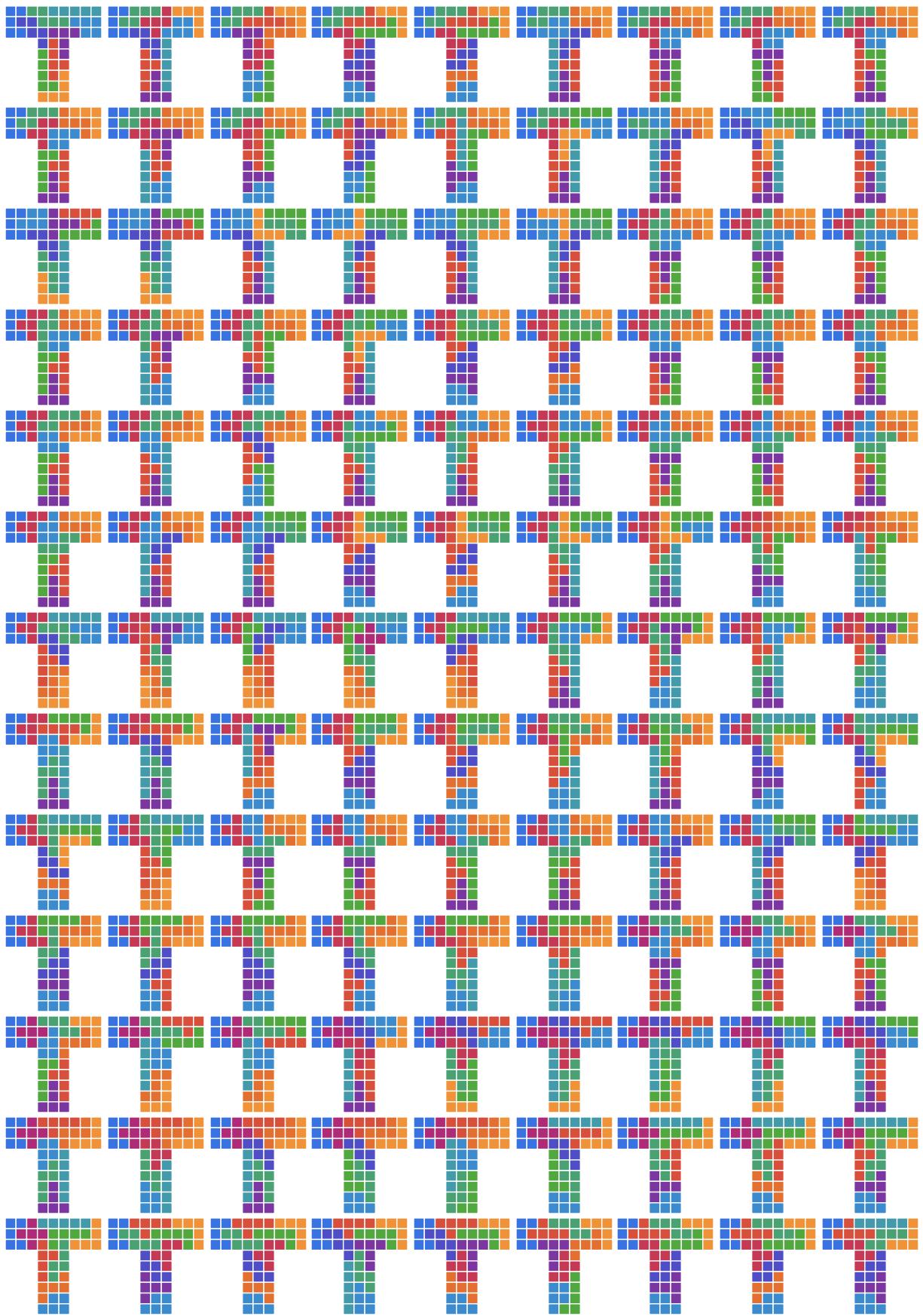


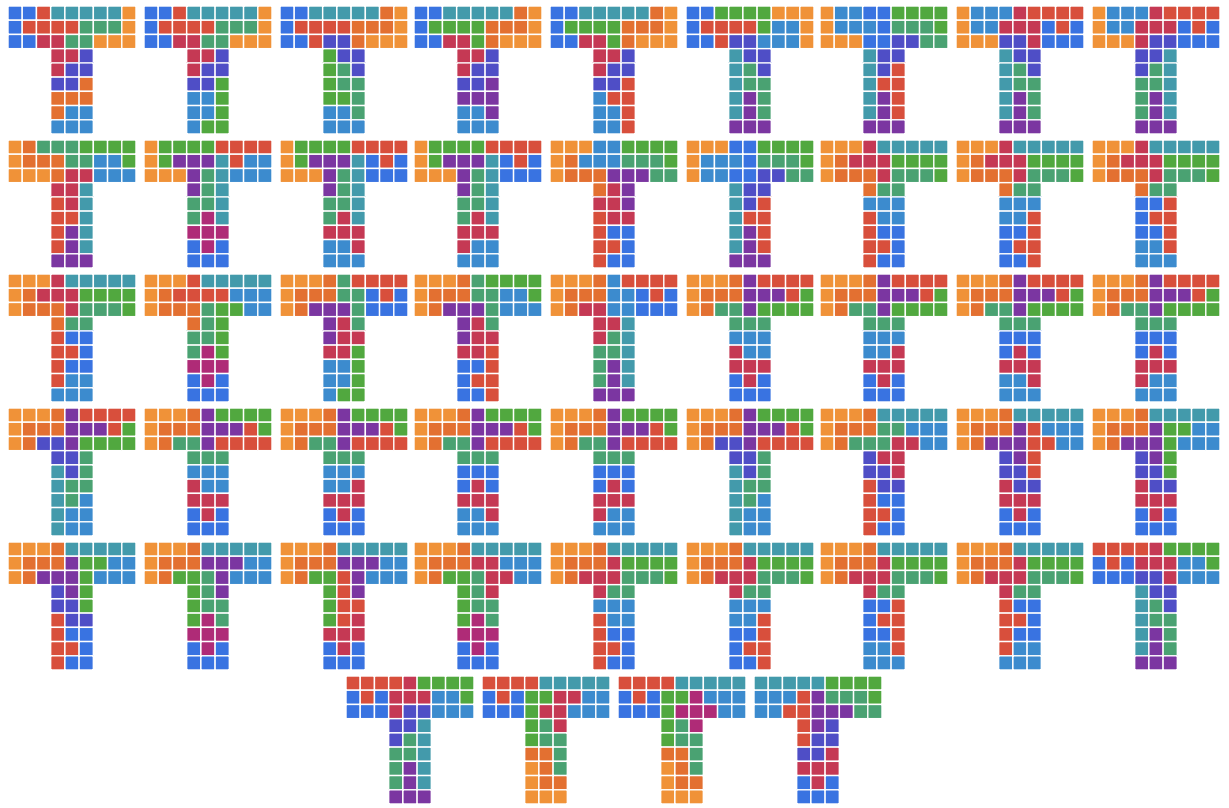
triple-t

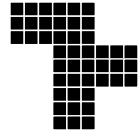
382 Solutions



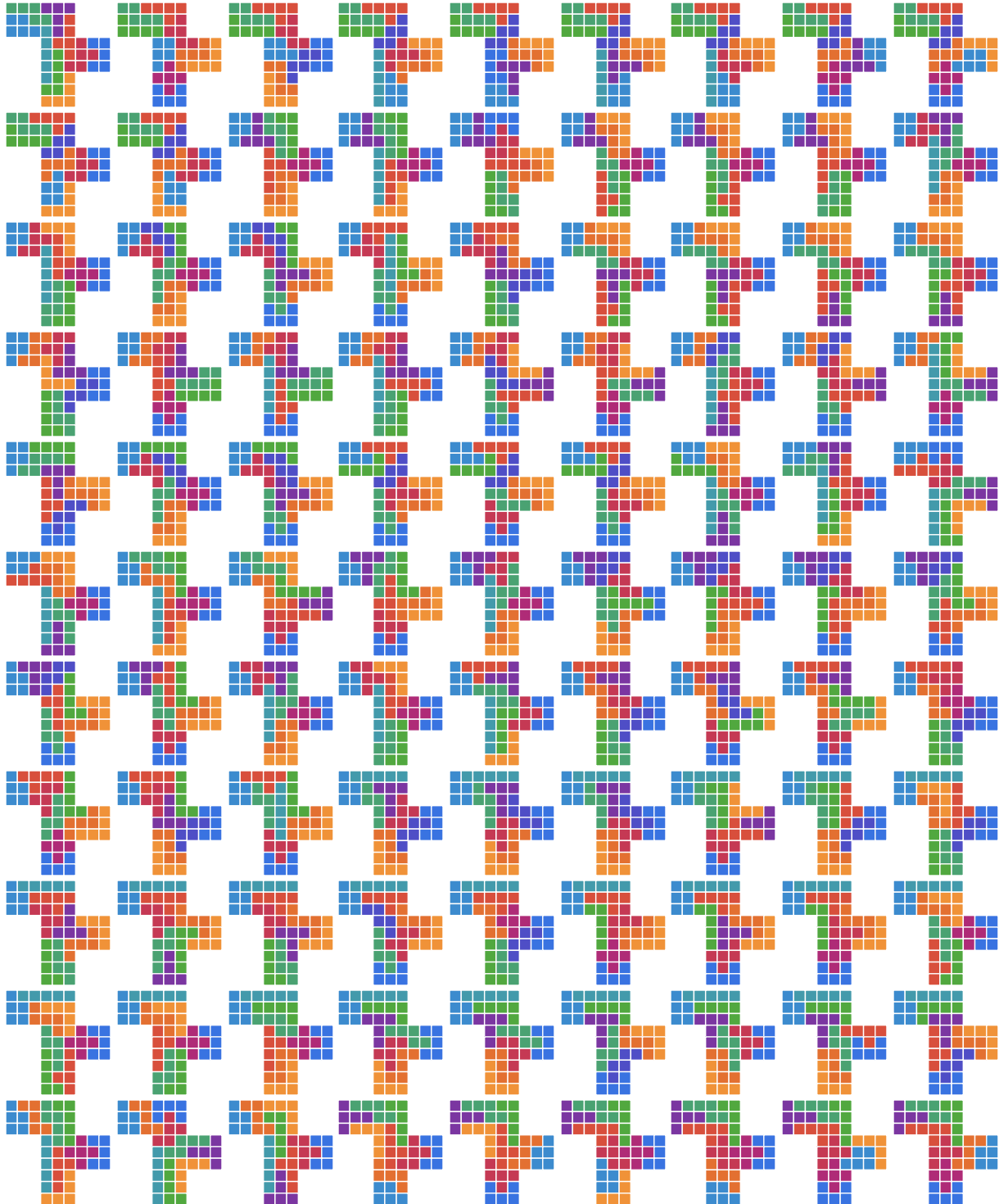


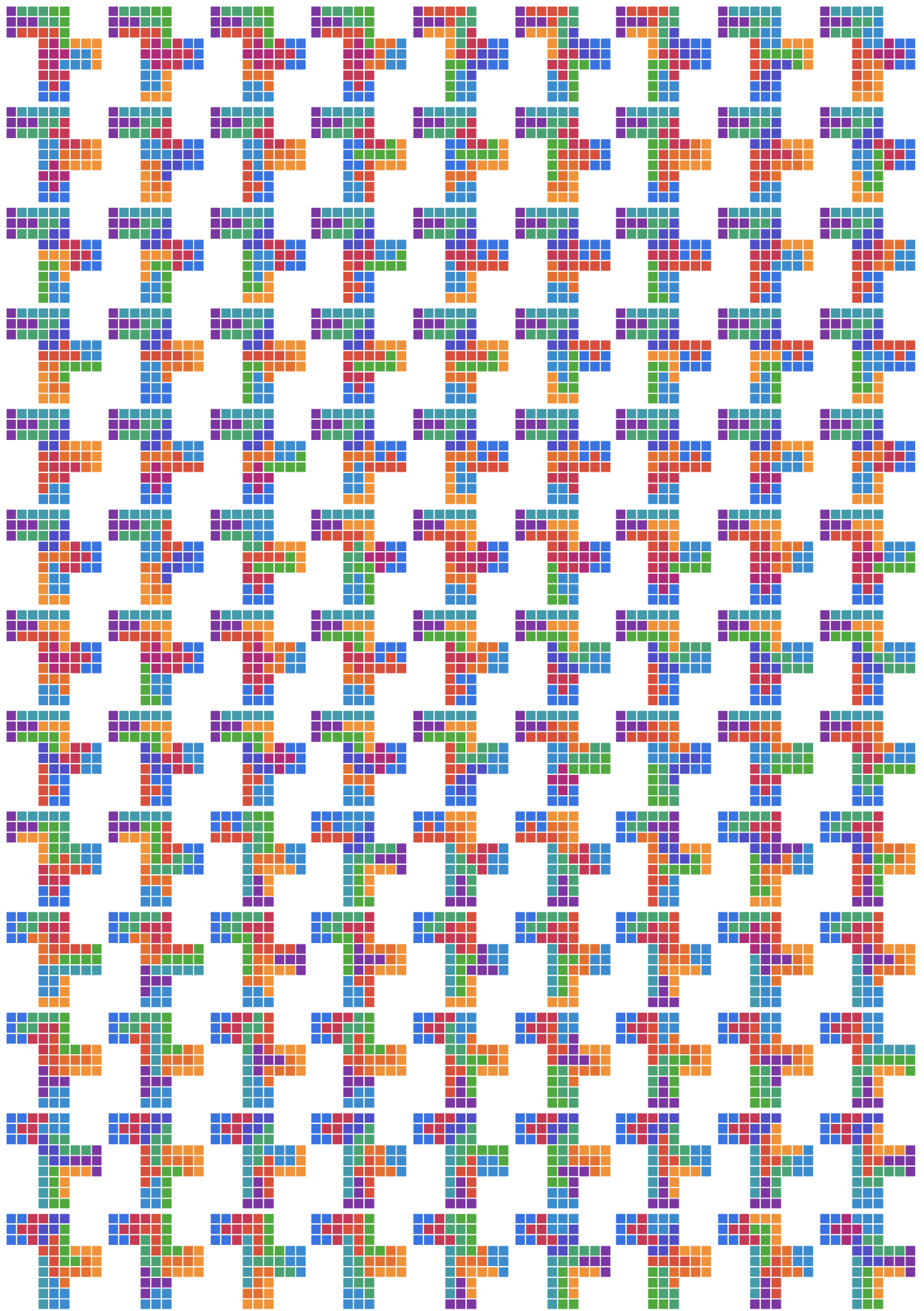


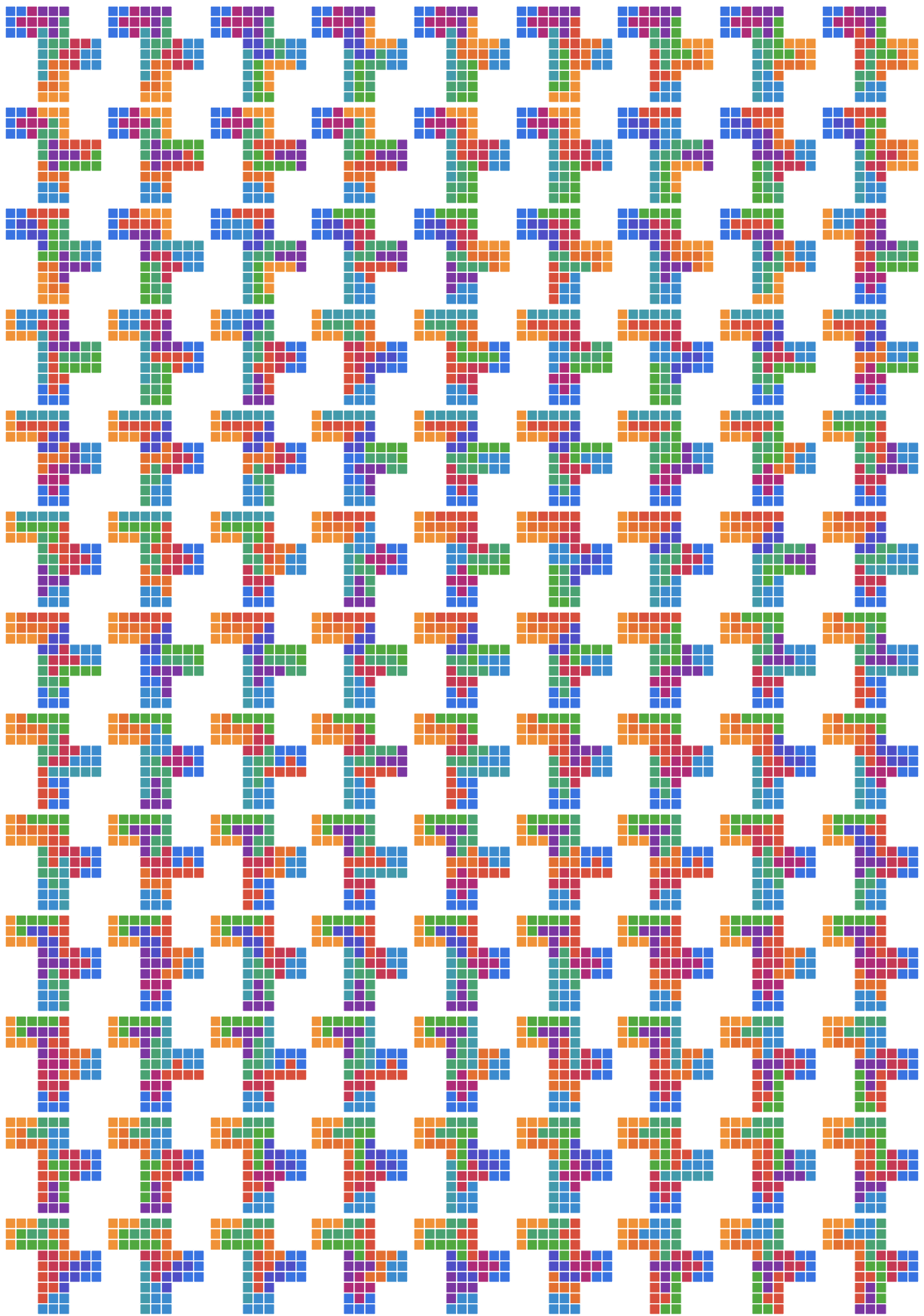


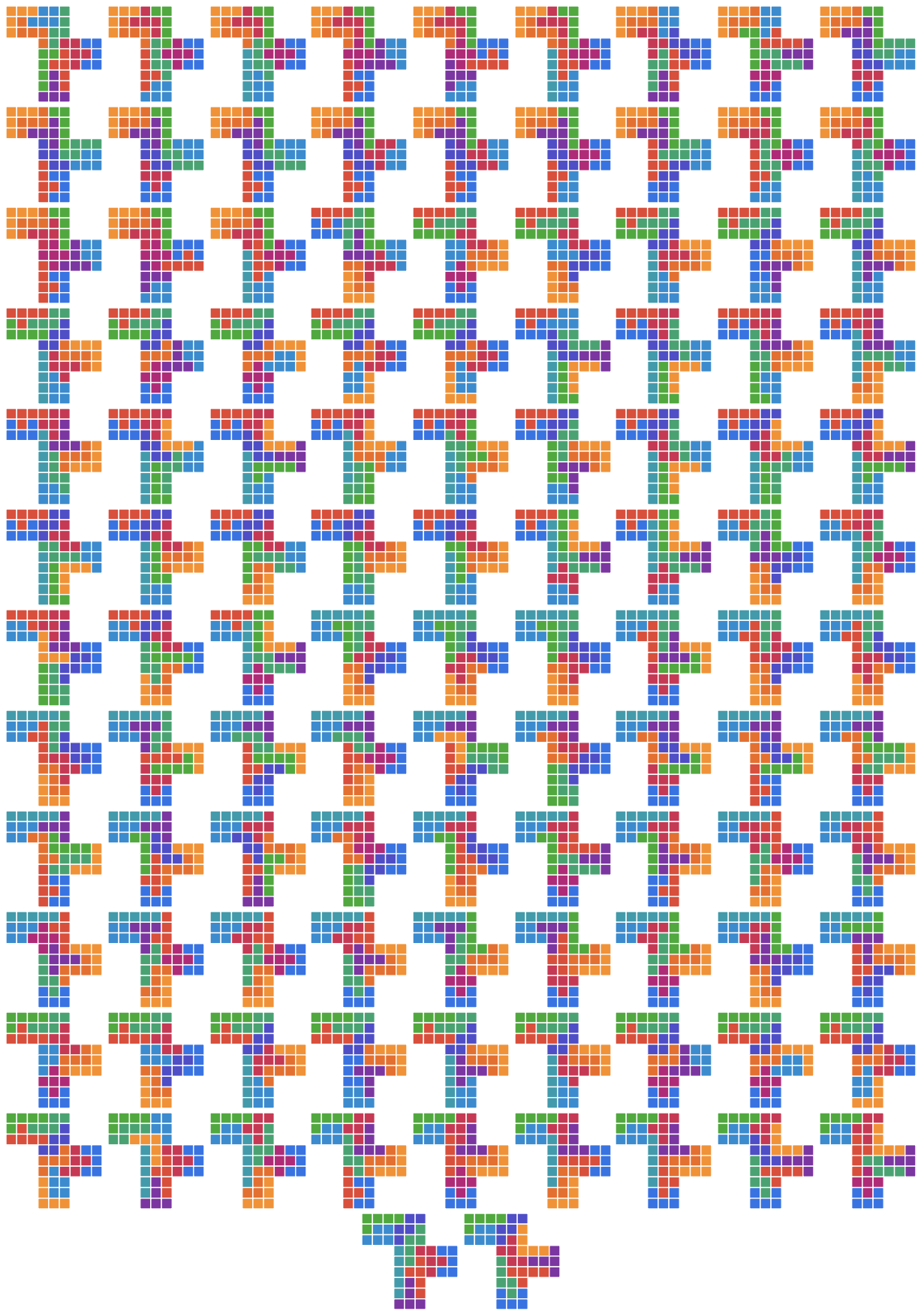


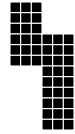
triple-f
443 Solutions





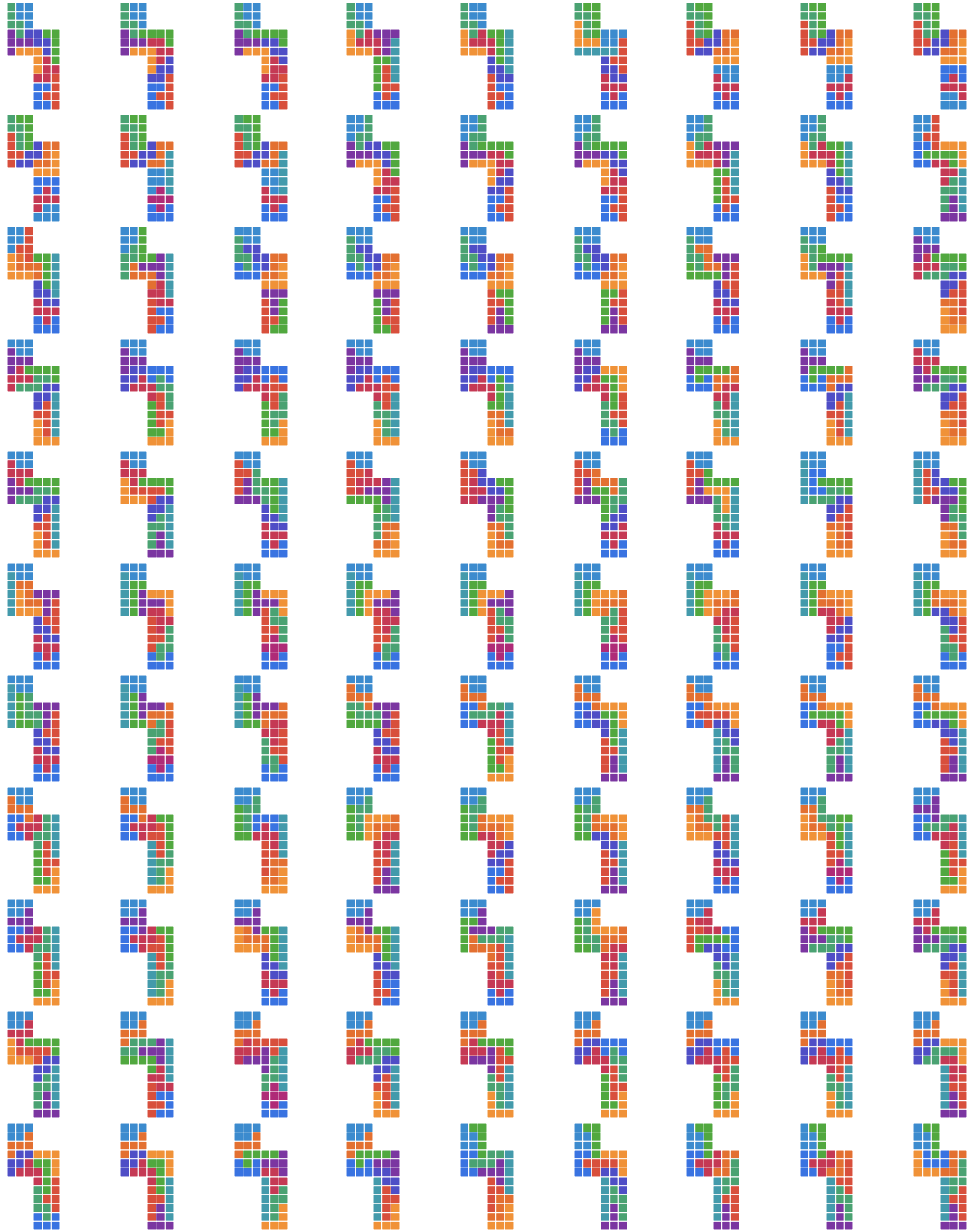


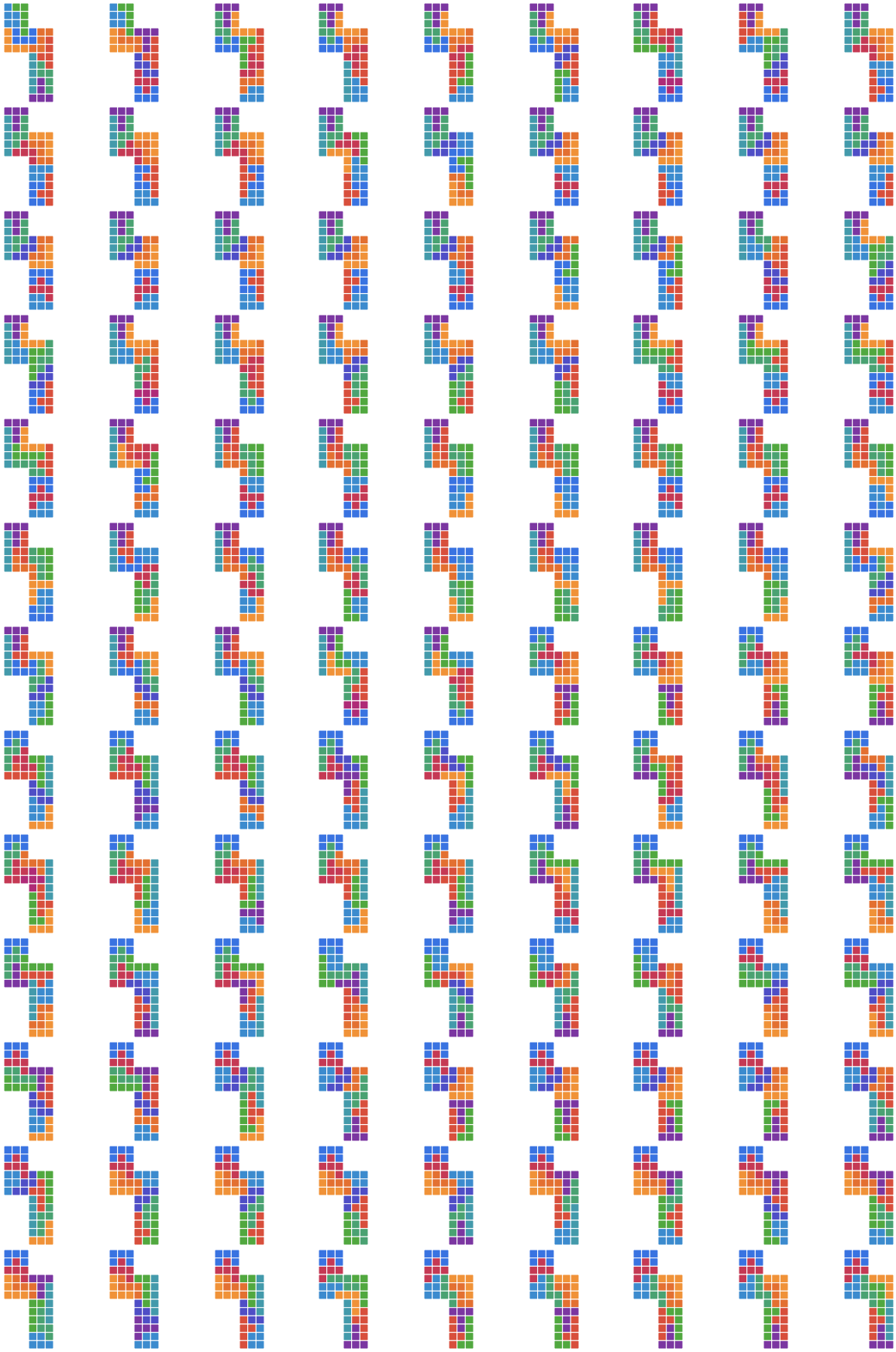


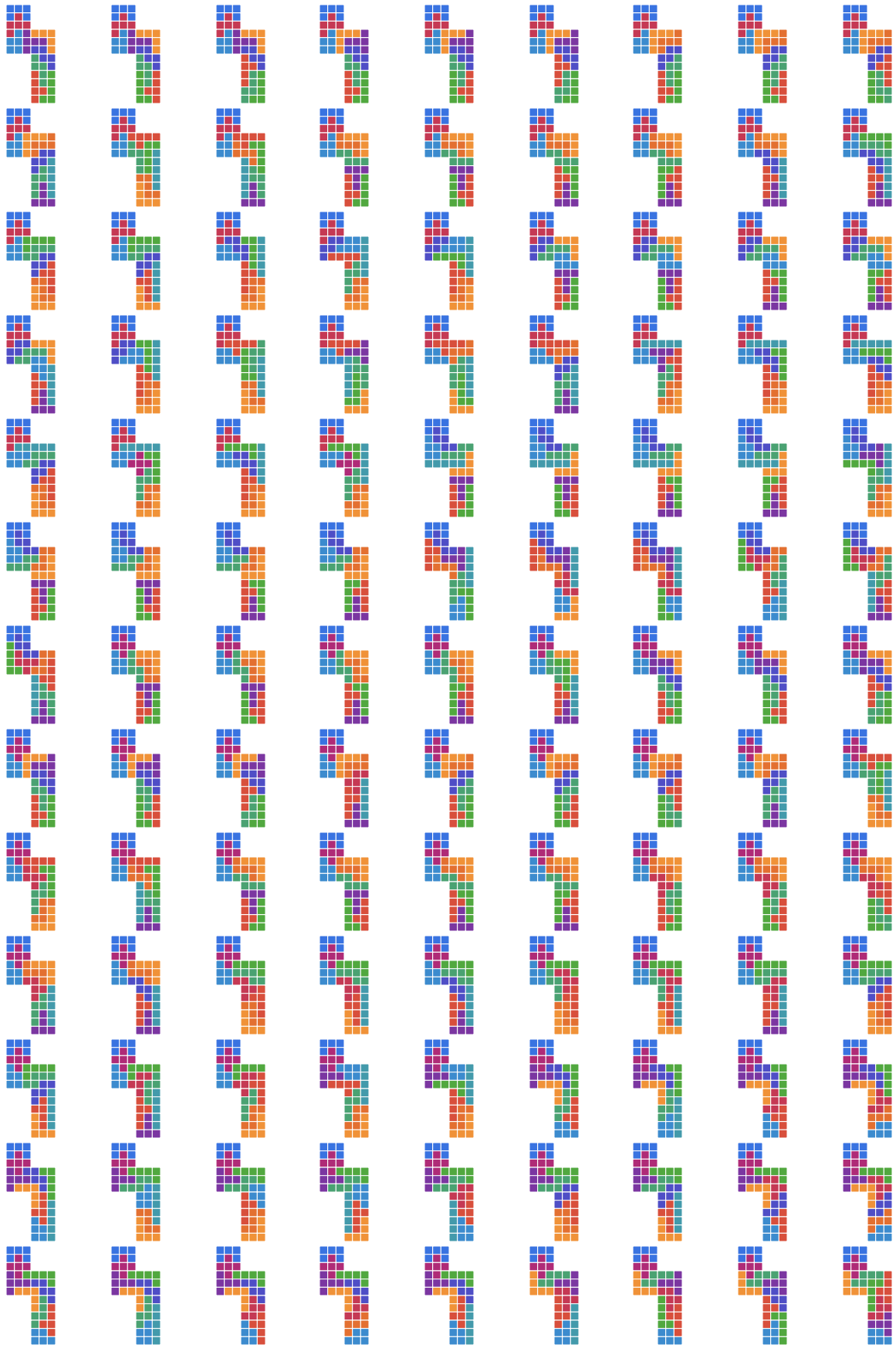


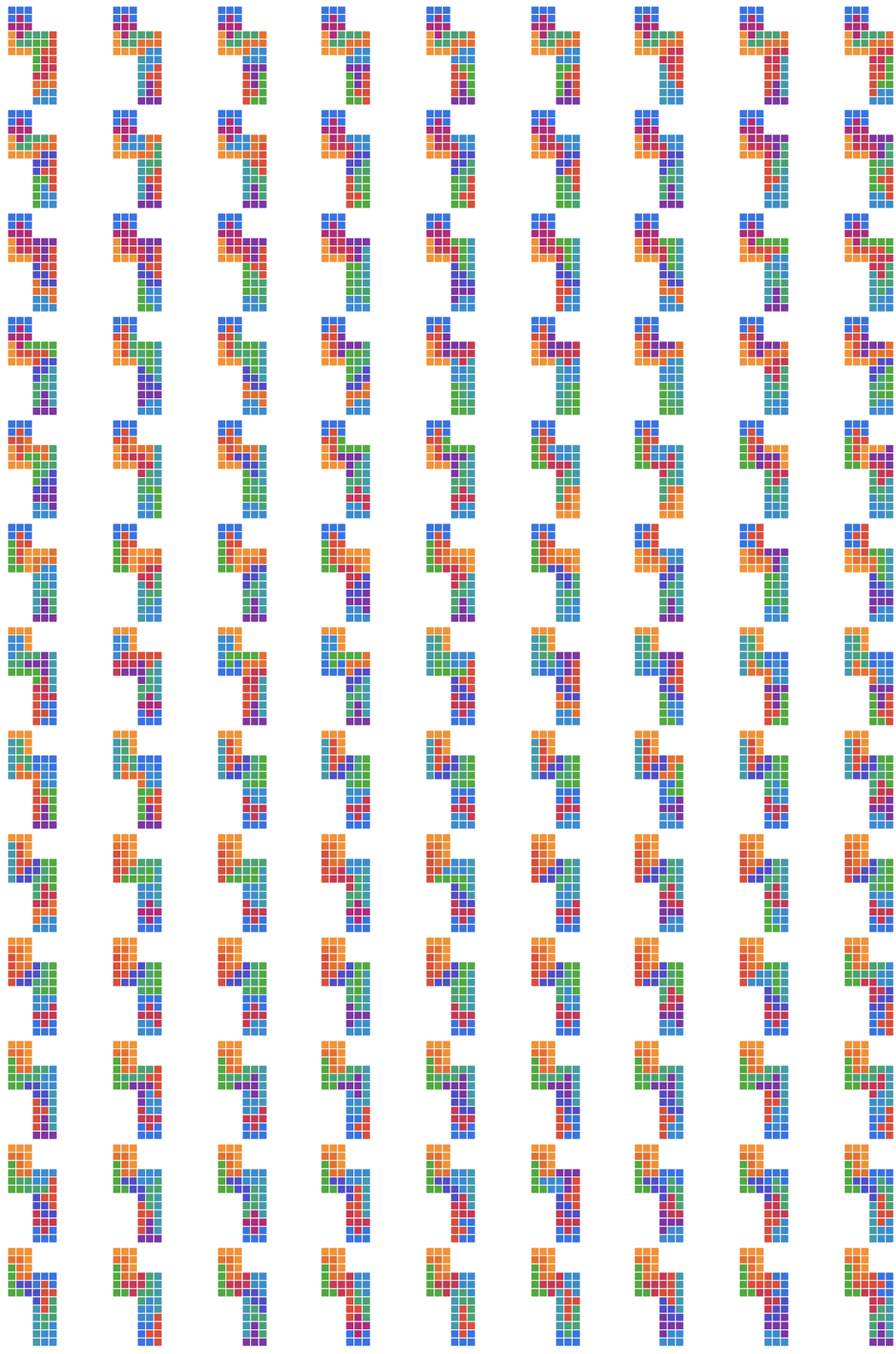
triple-n

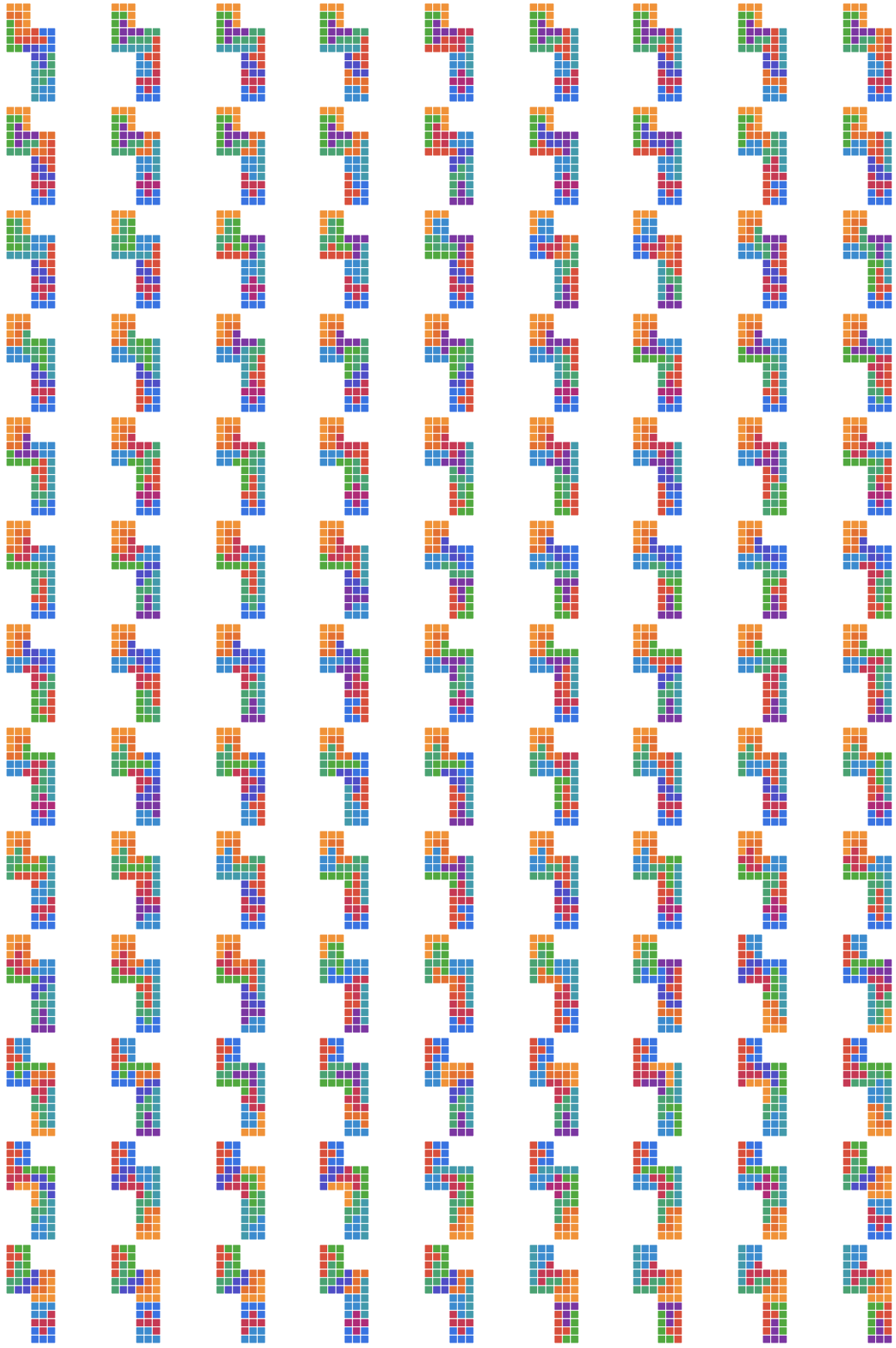
610 Solutions

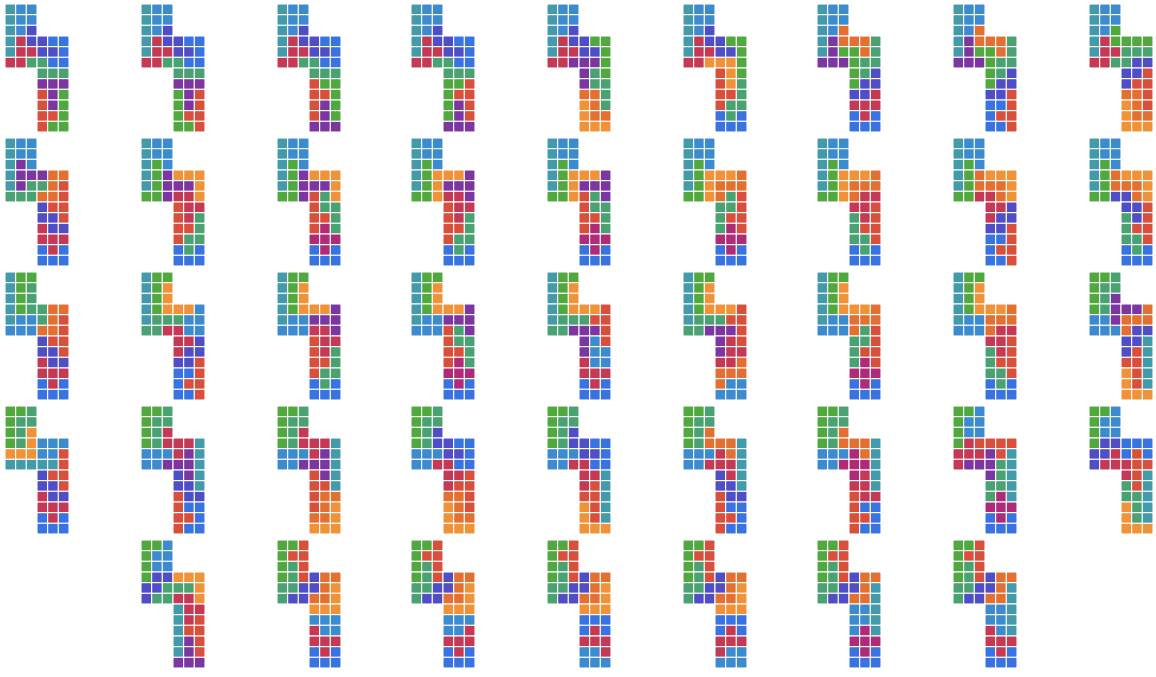


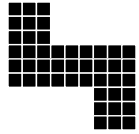






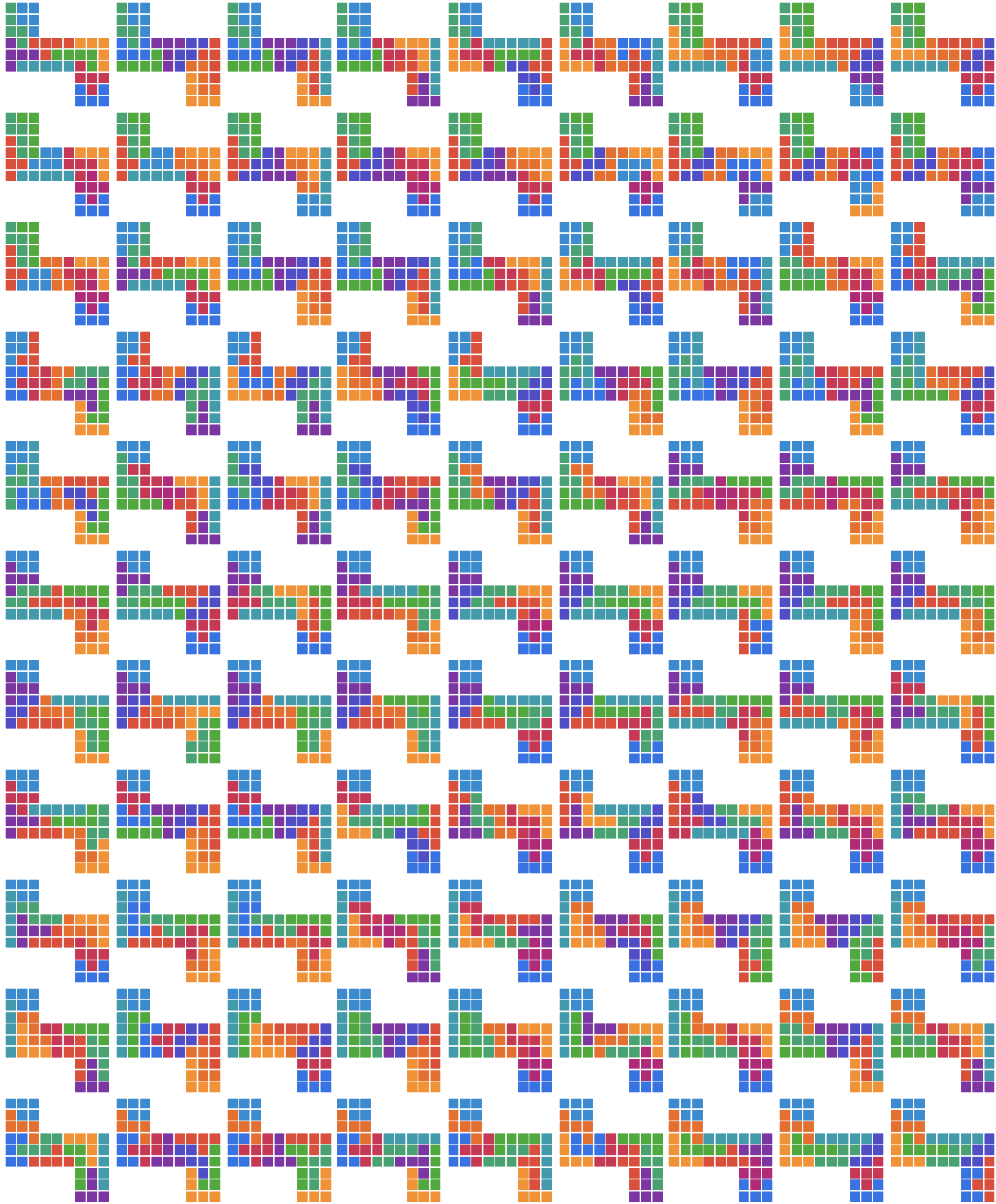


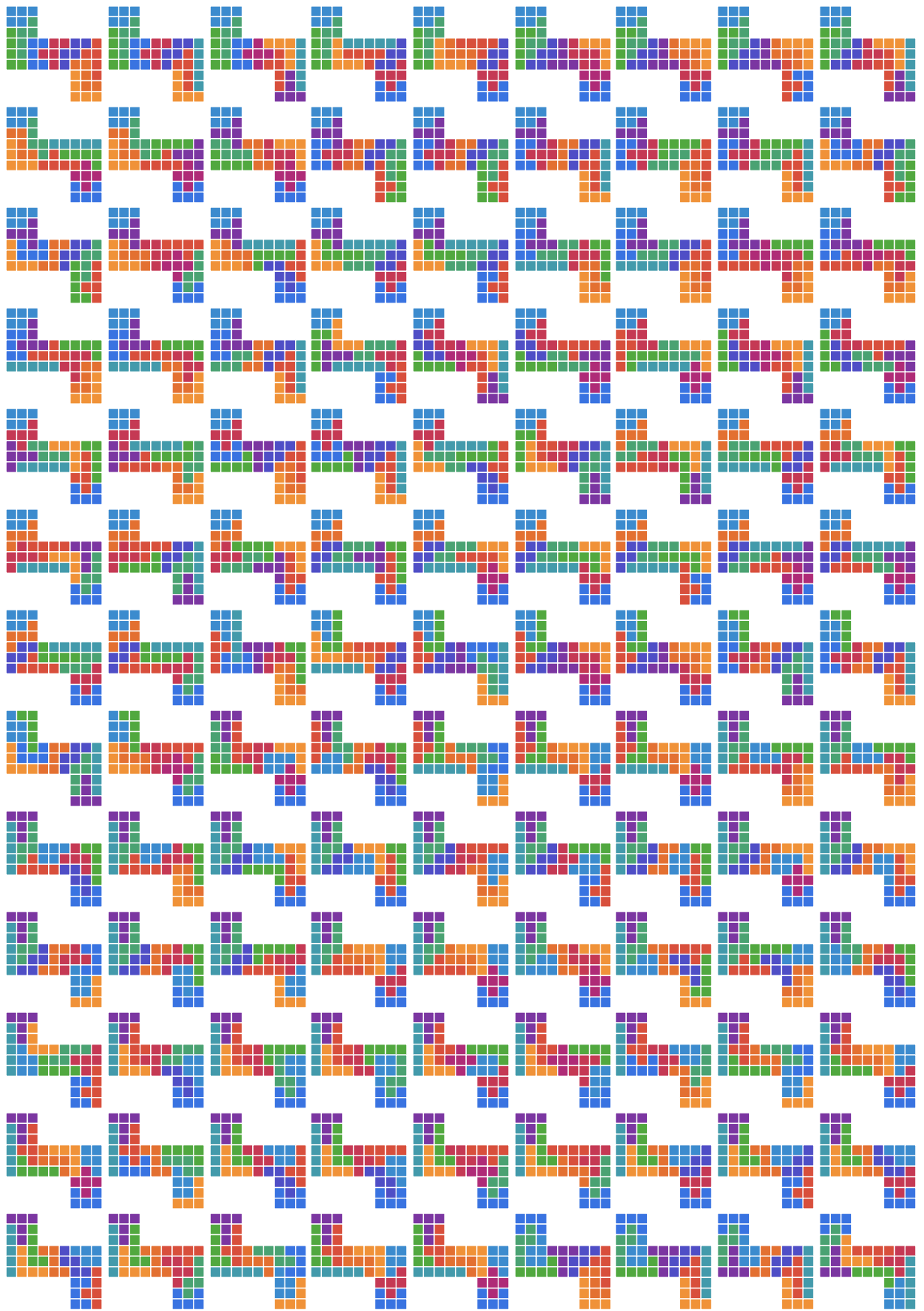


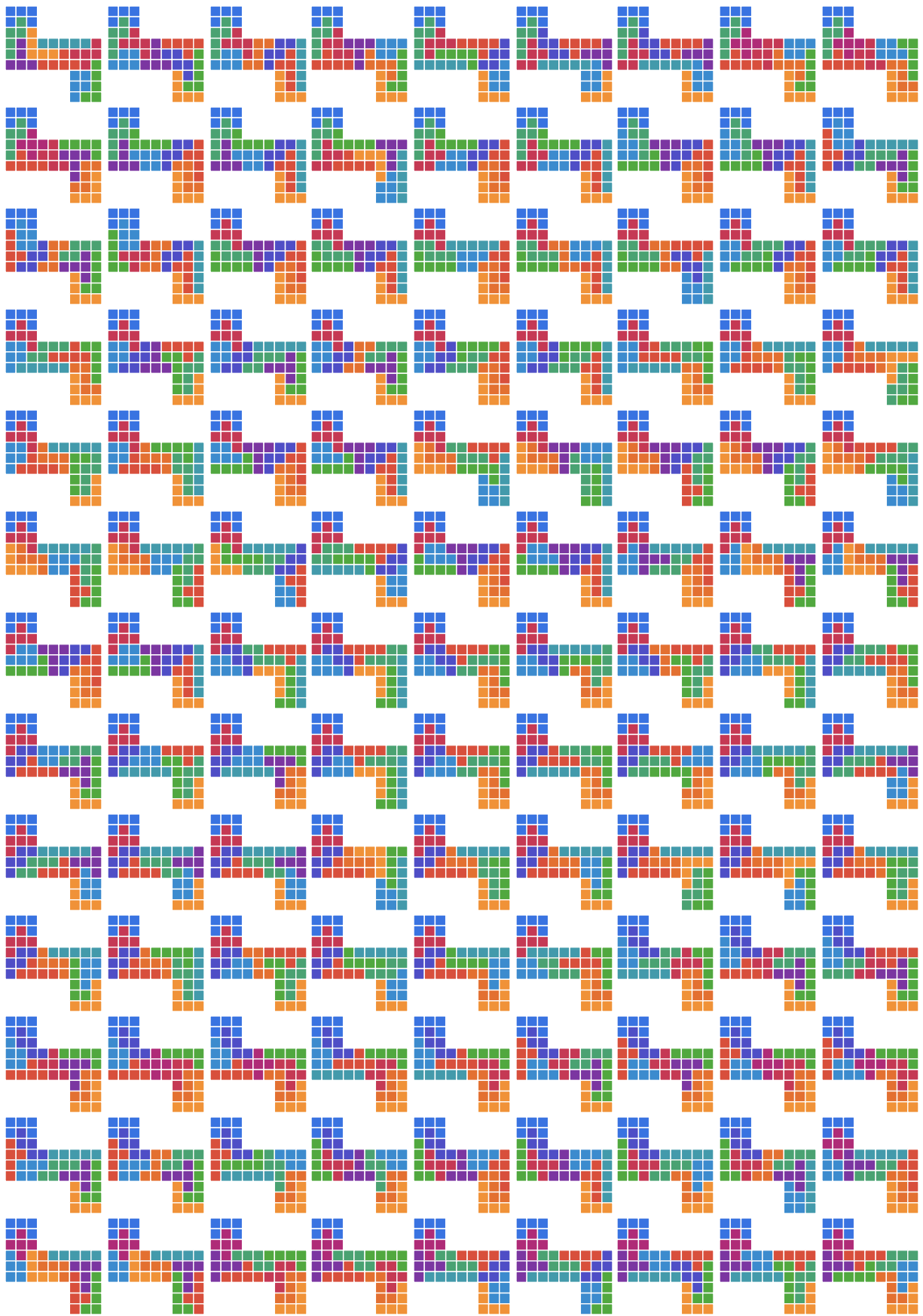


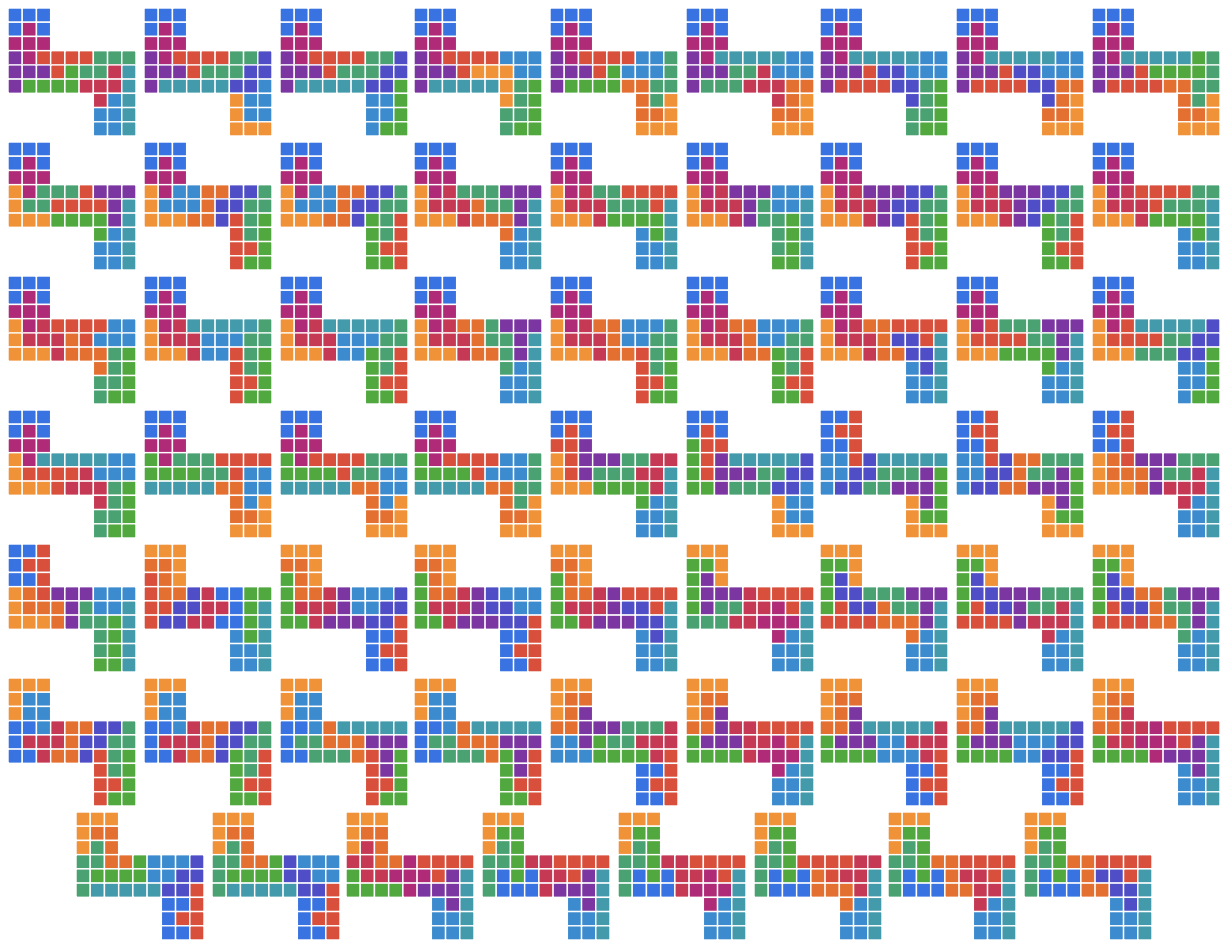
triple-z

395 Solutions



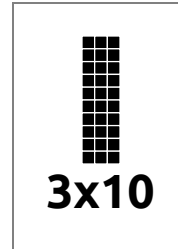
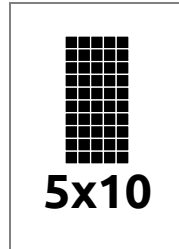
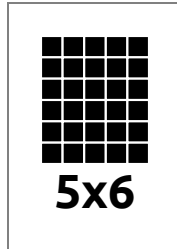
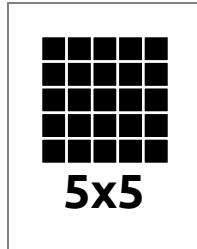


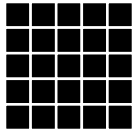




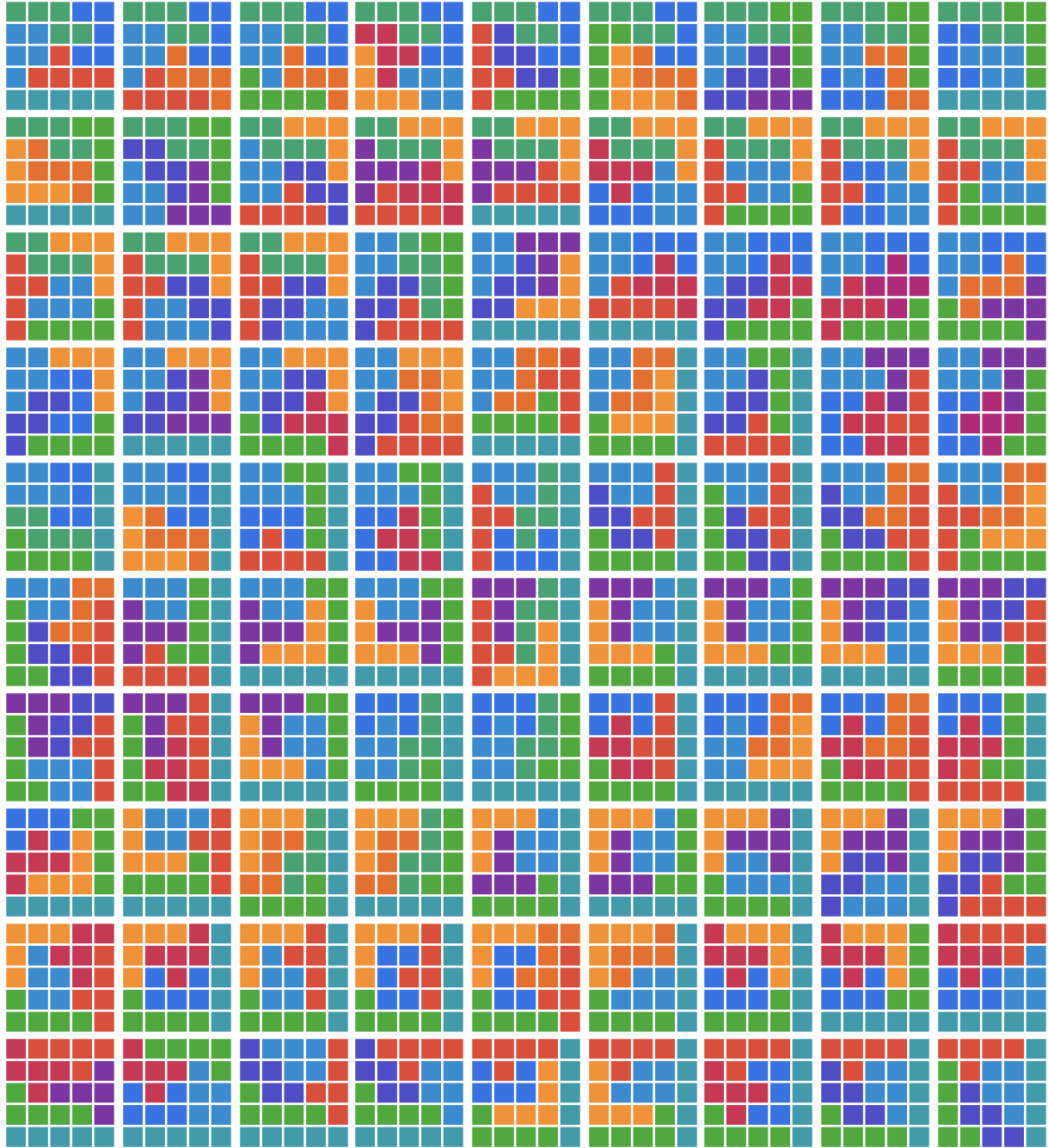
Degenerate Puzzles

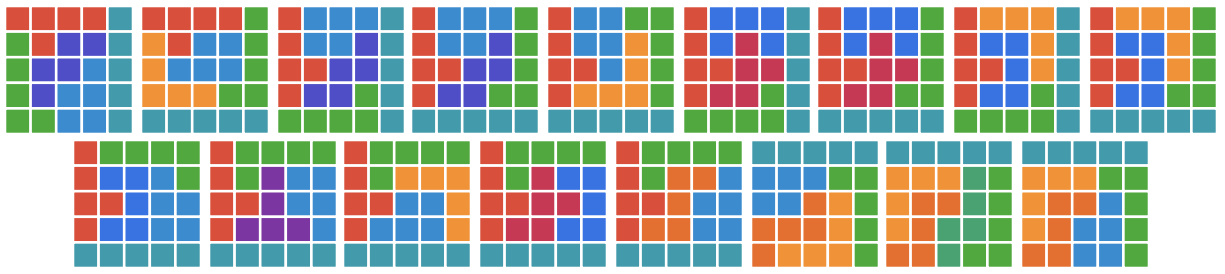
Puzzles that are too small to contain all 12 pieces.

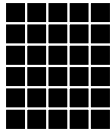




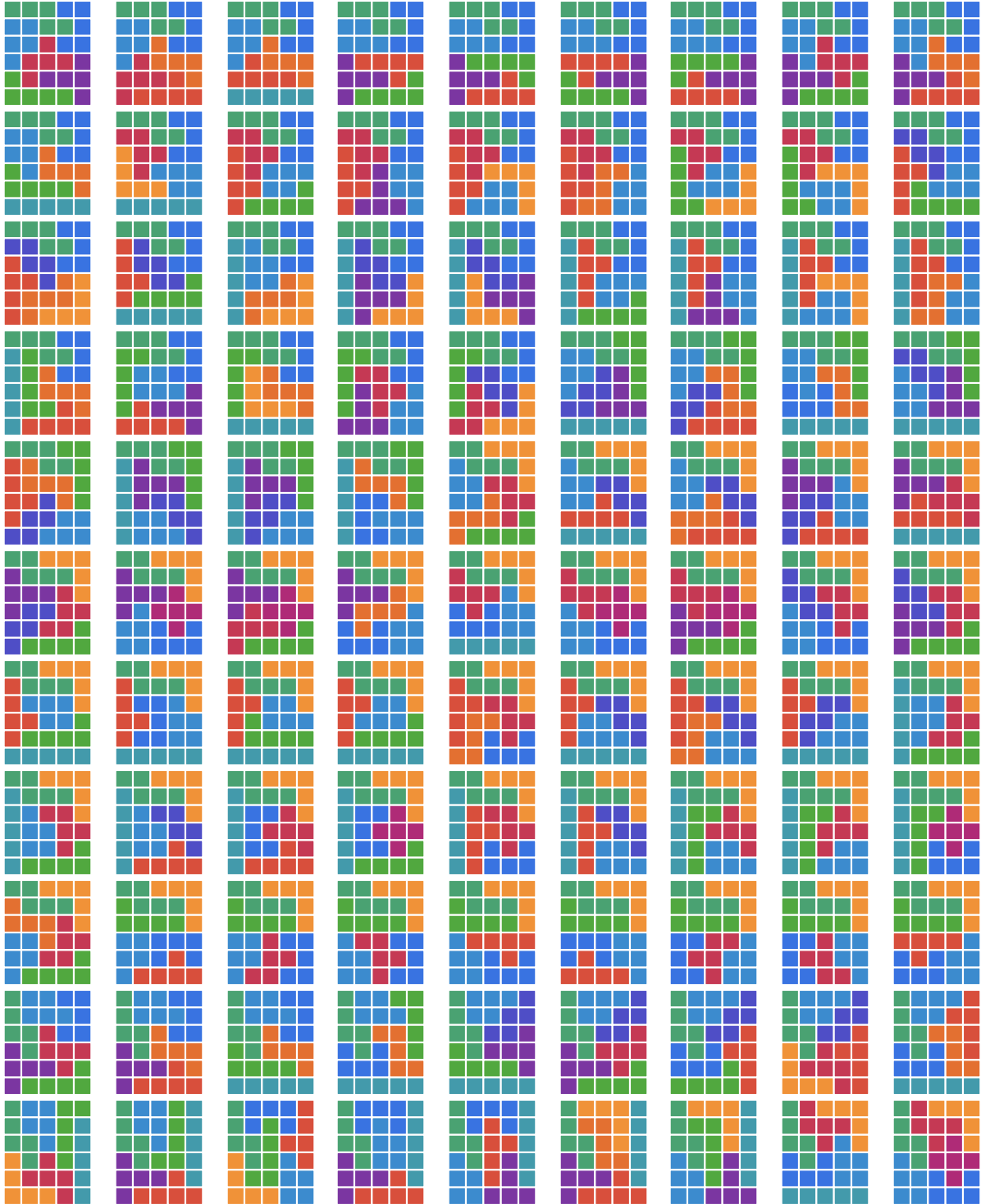
5x5
107
Solutions

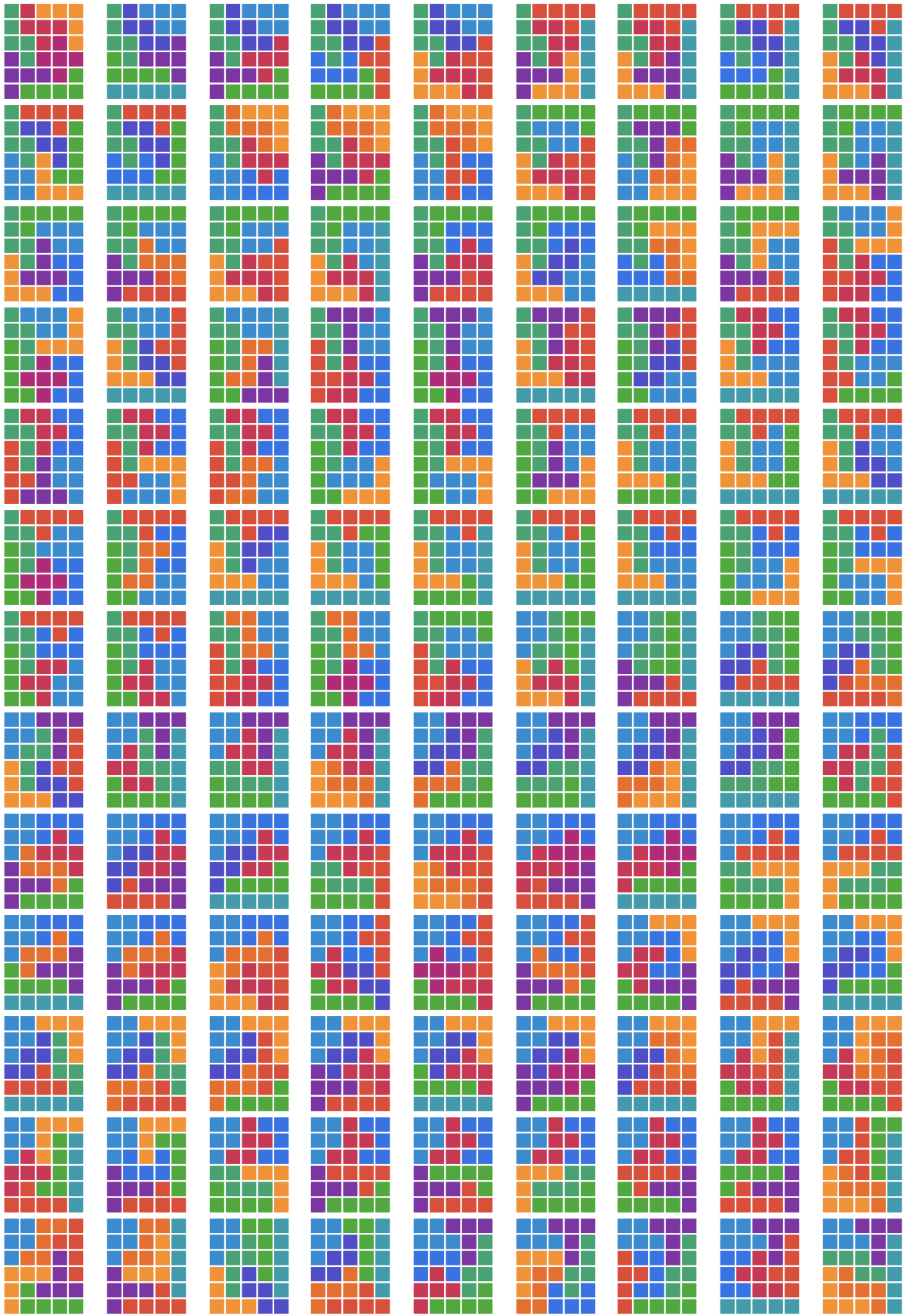




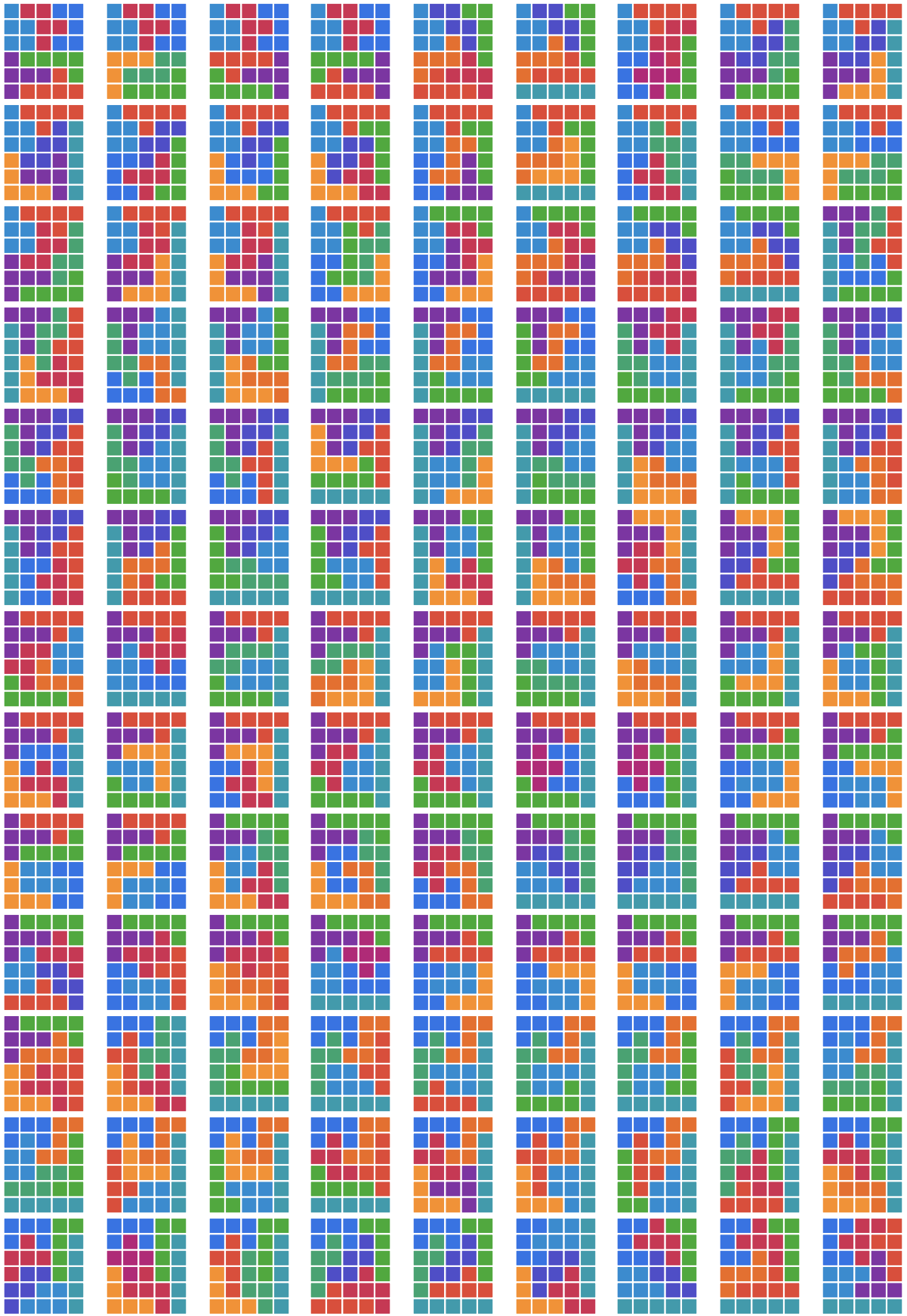


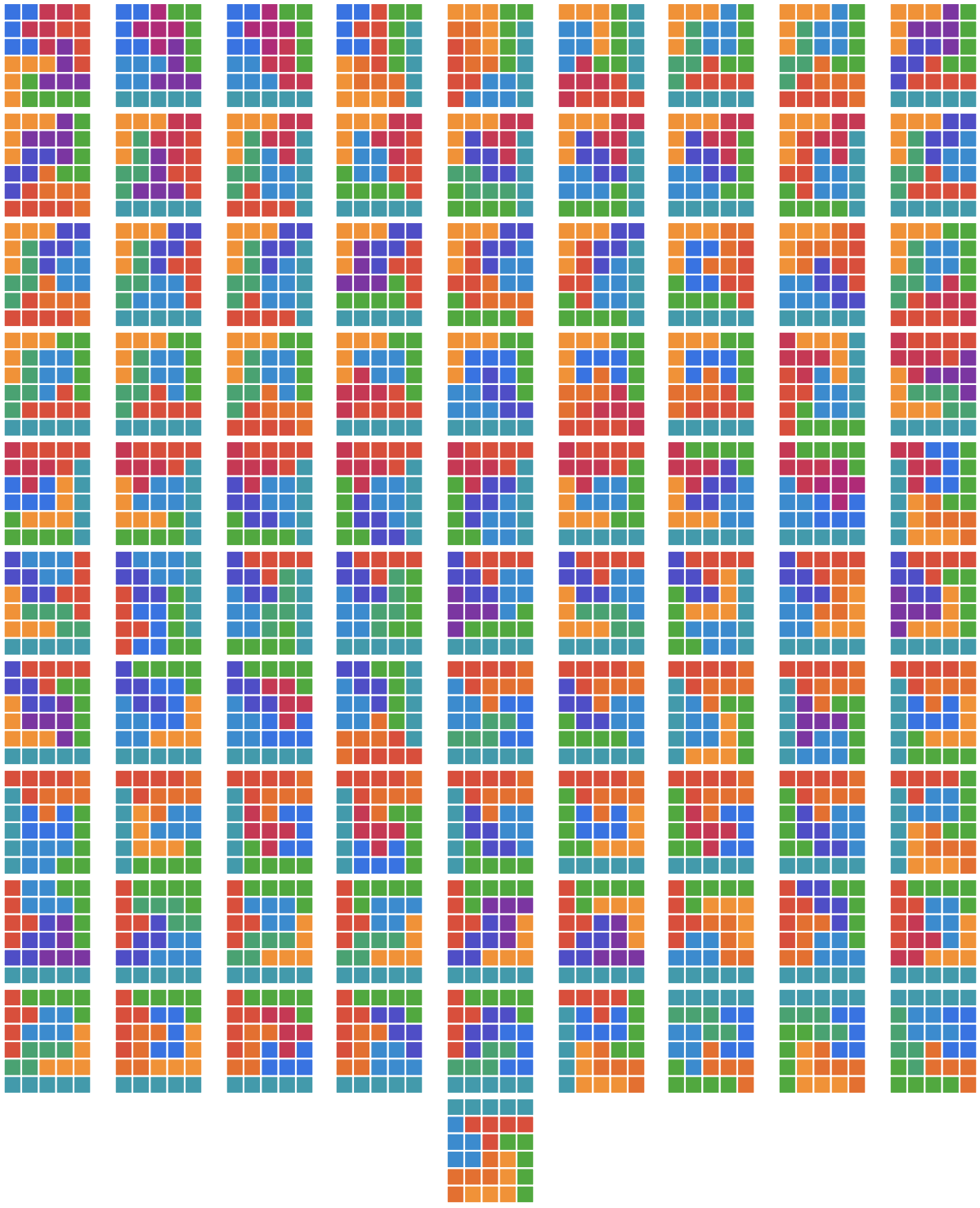
5x6
541
Solutions

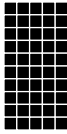




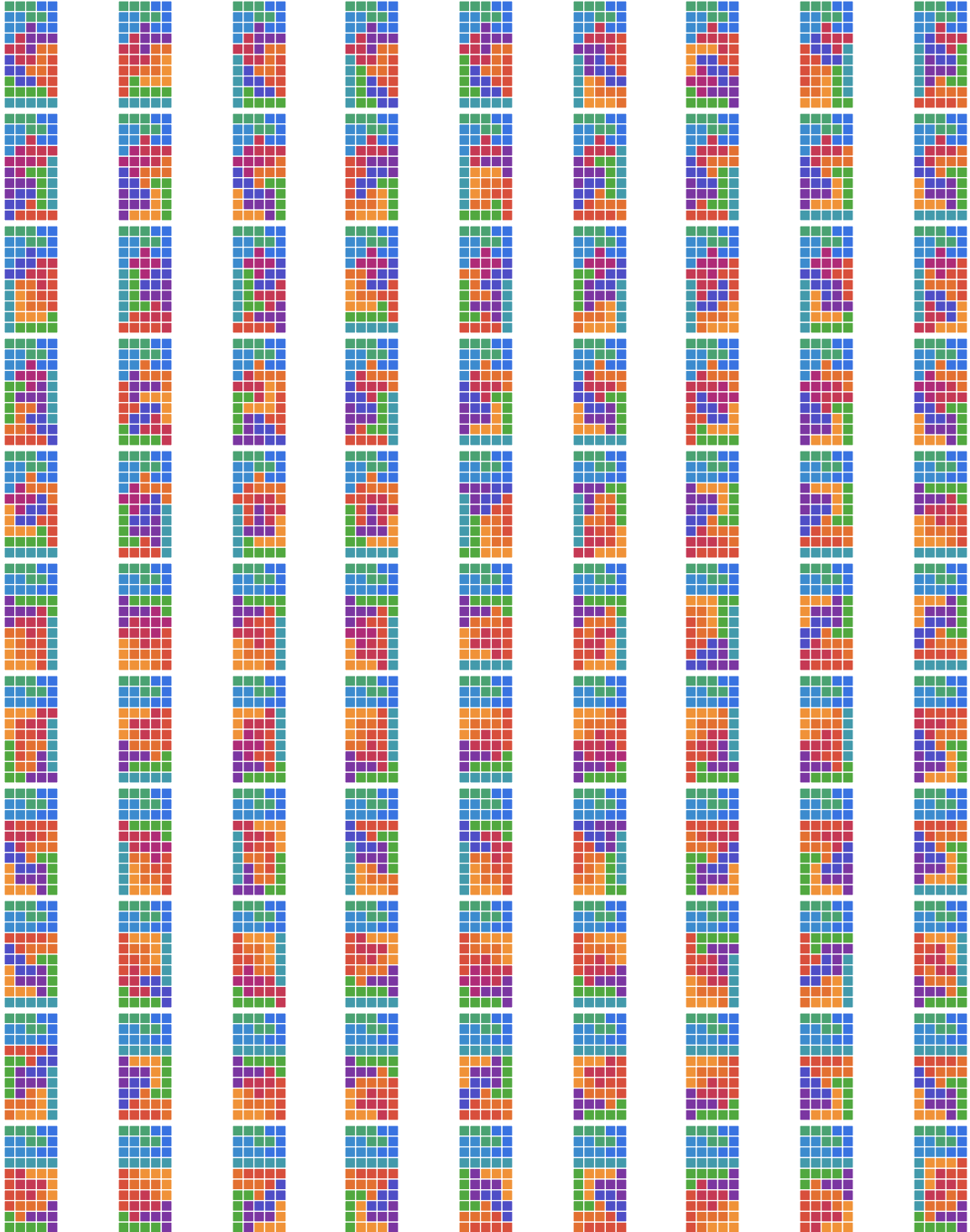


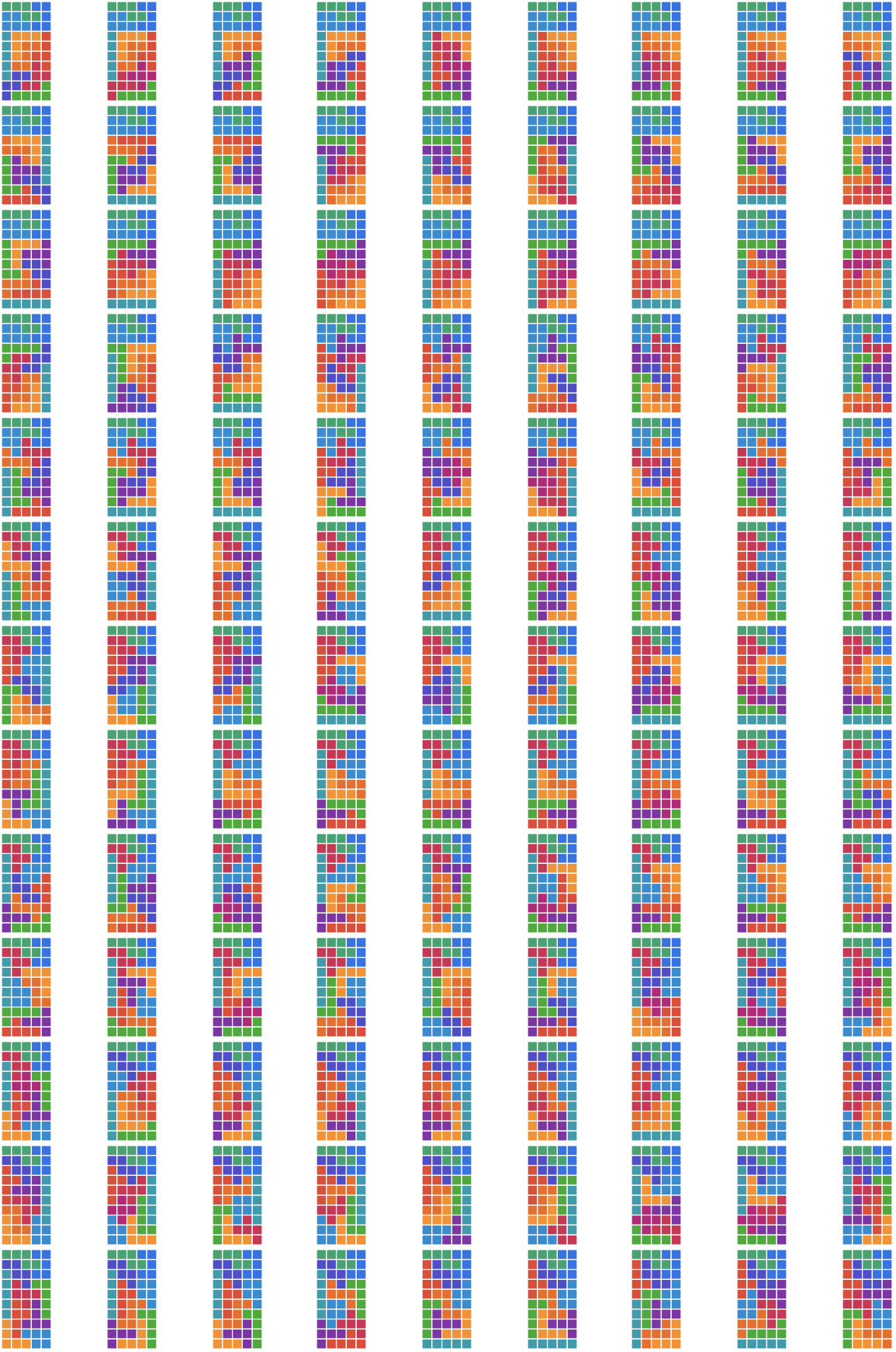


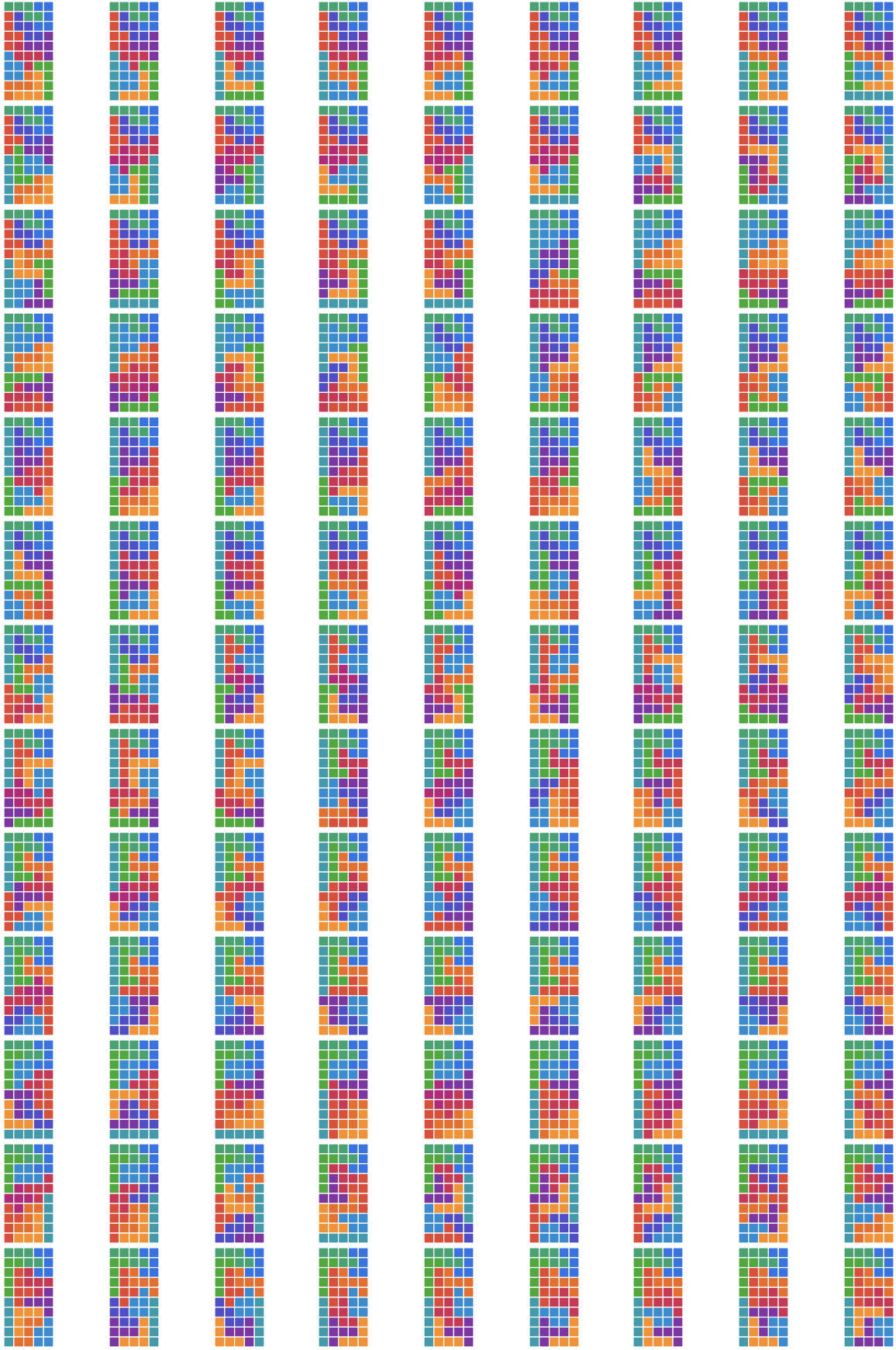


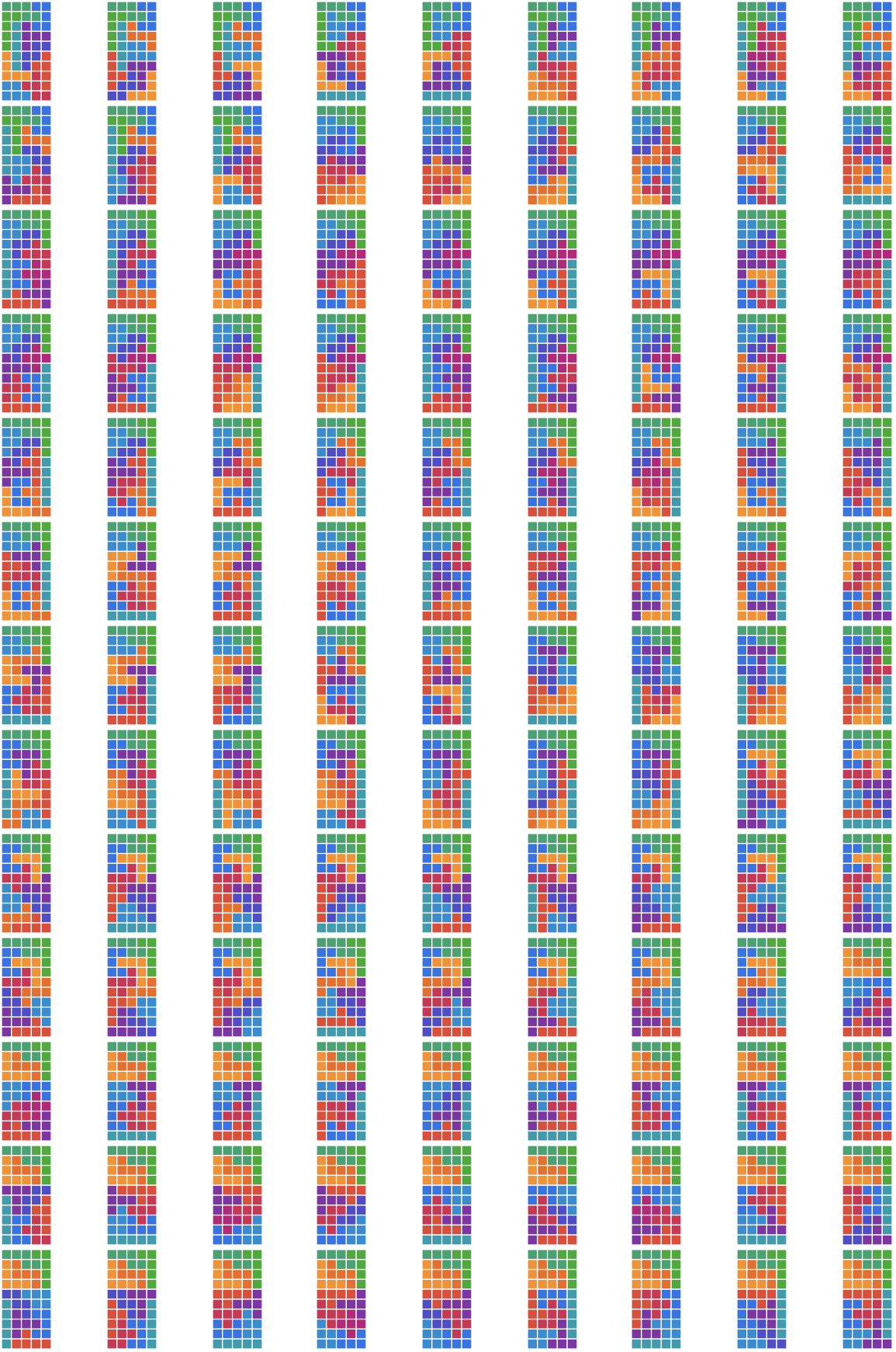


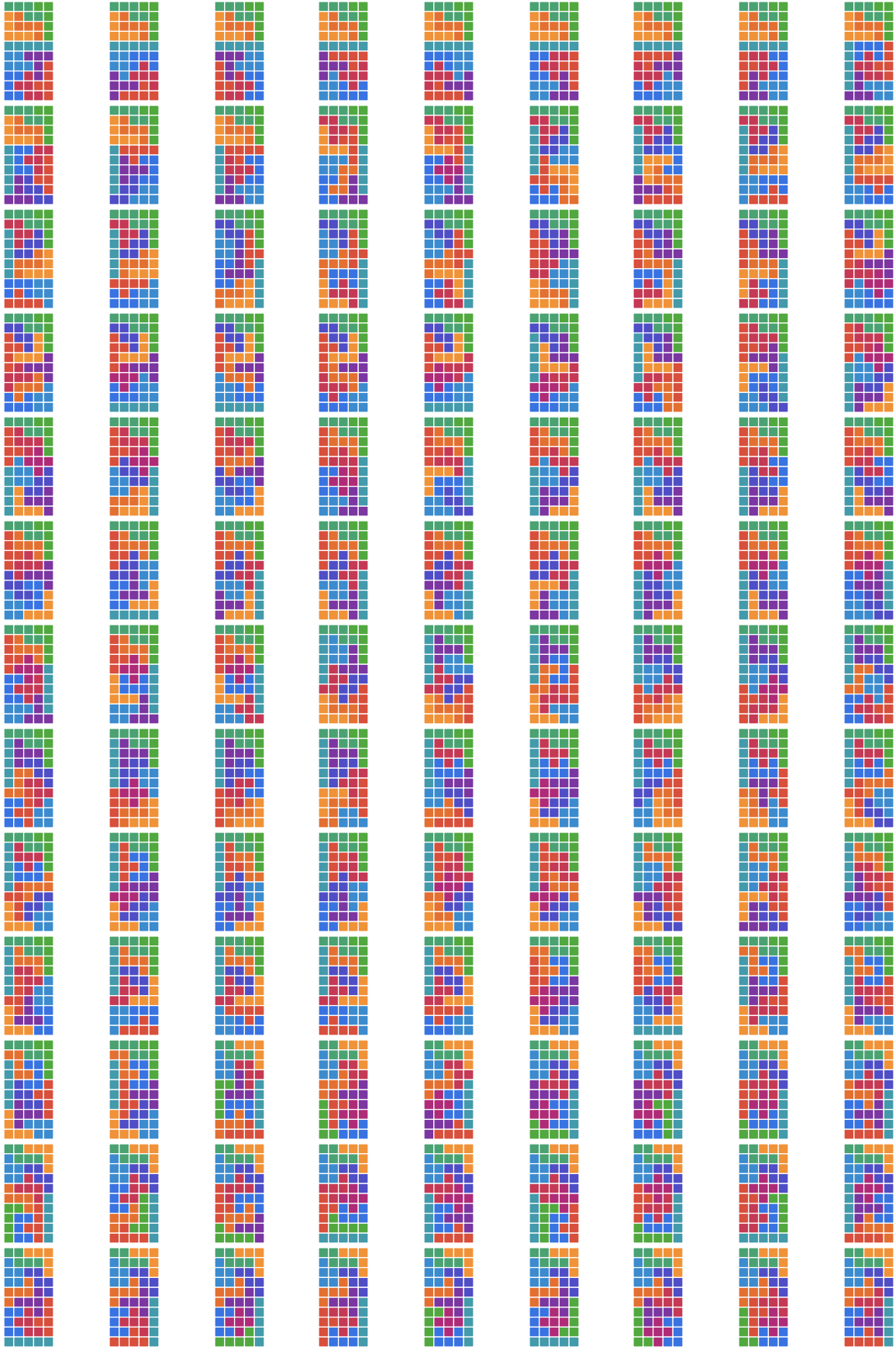
5x10
6,951
Solutions

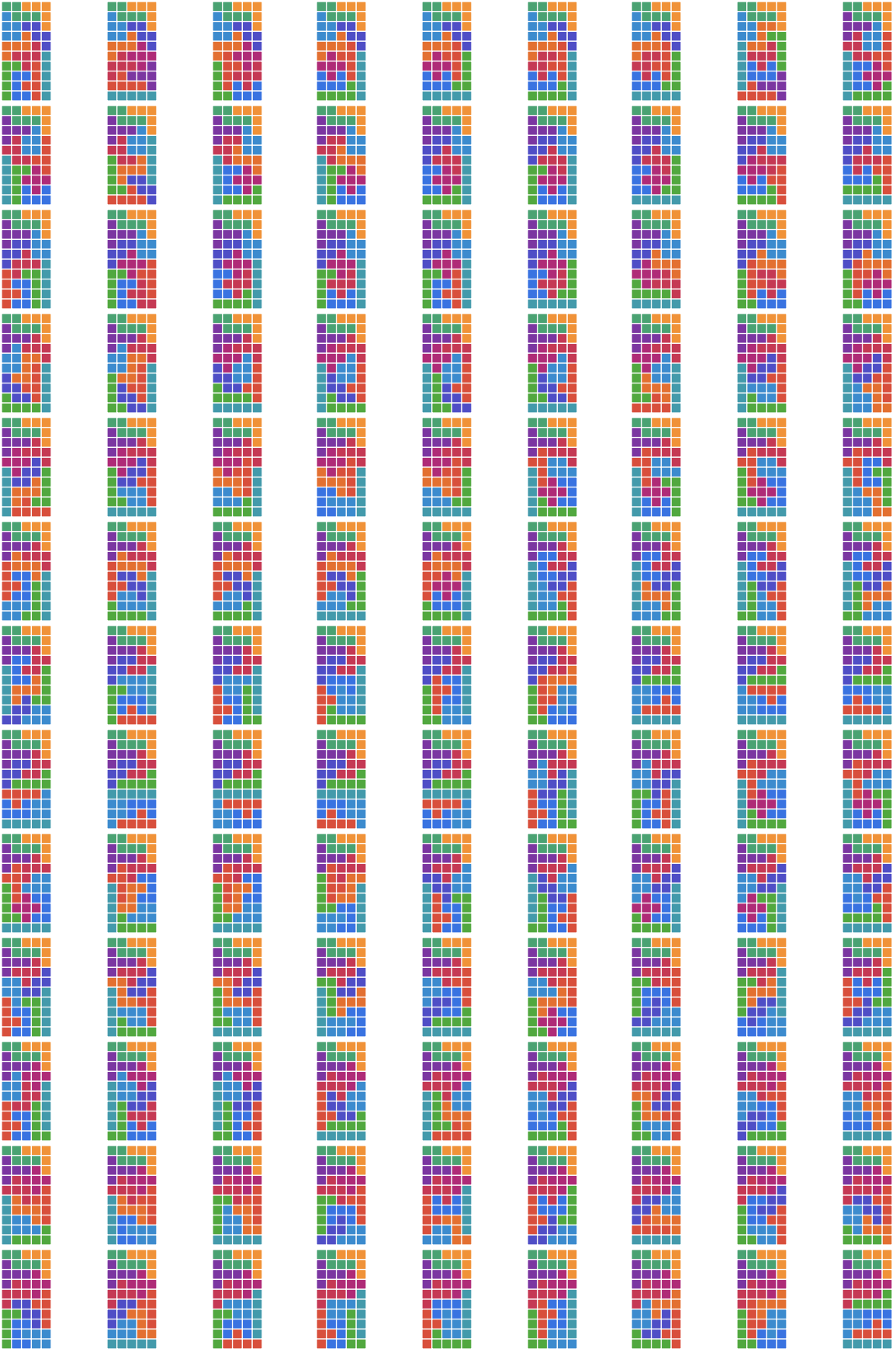


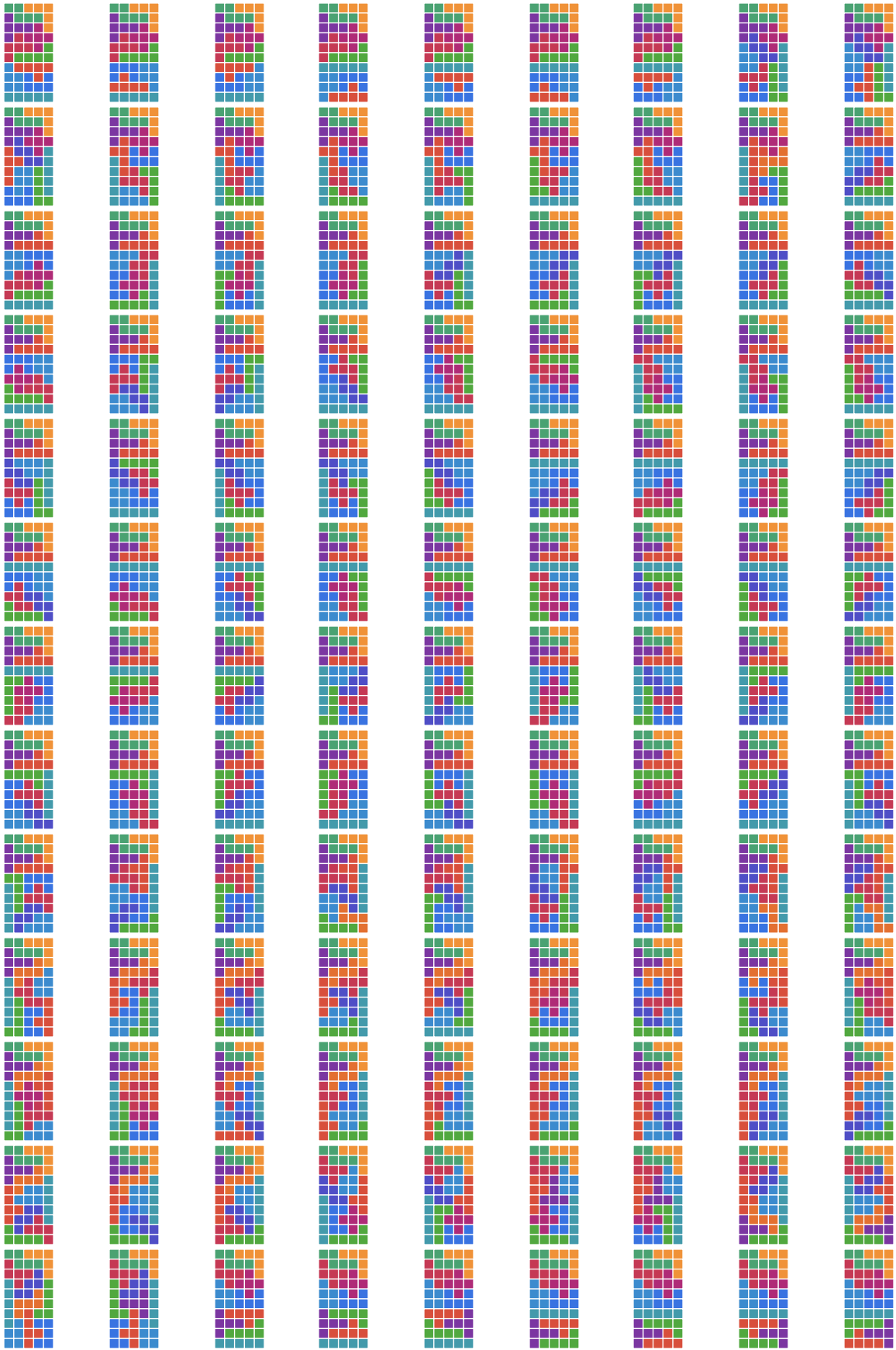


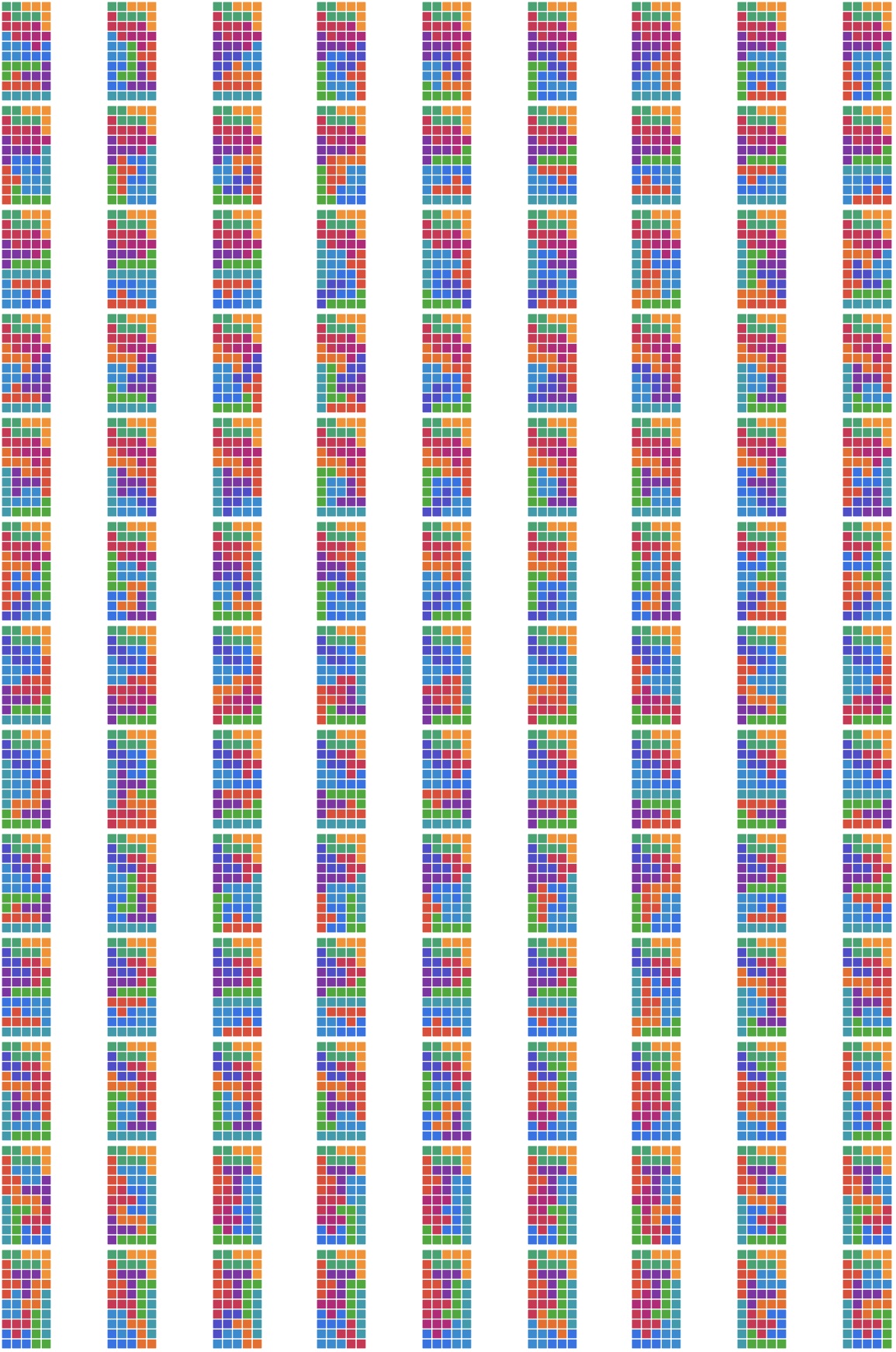


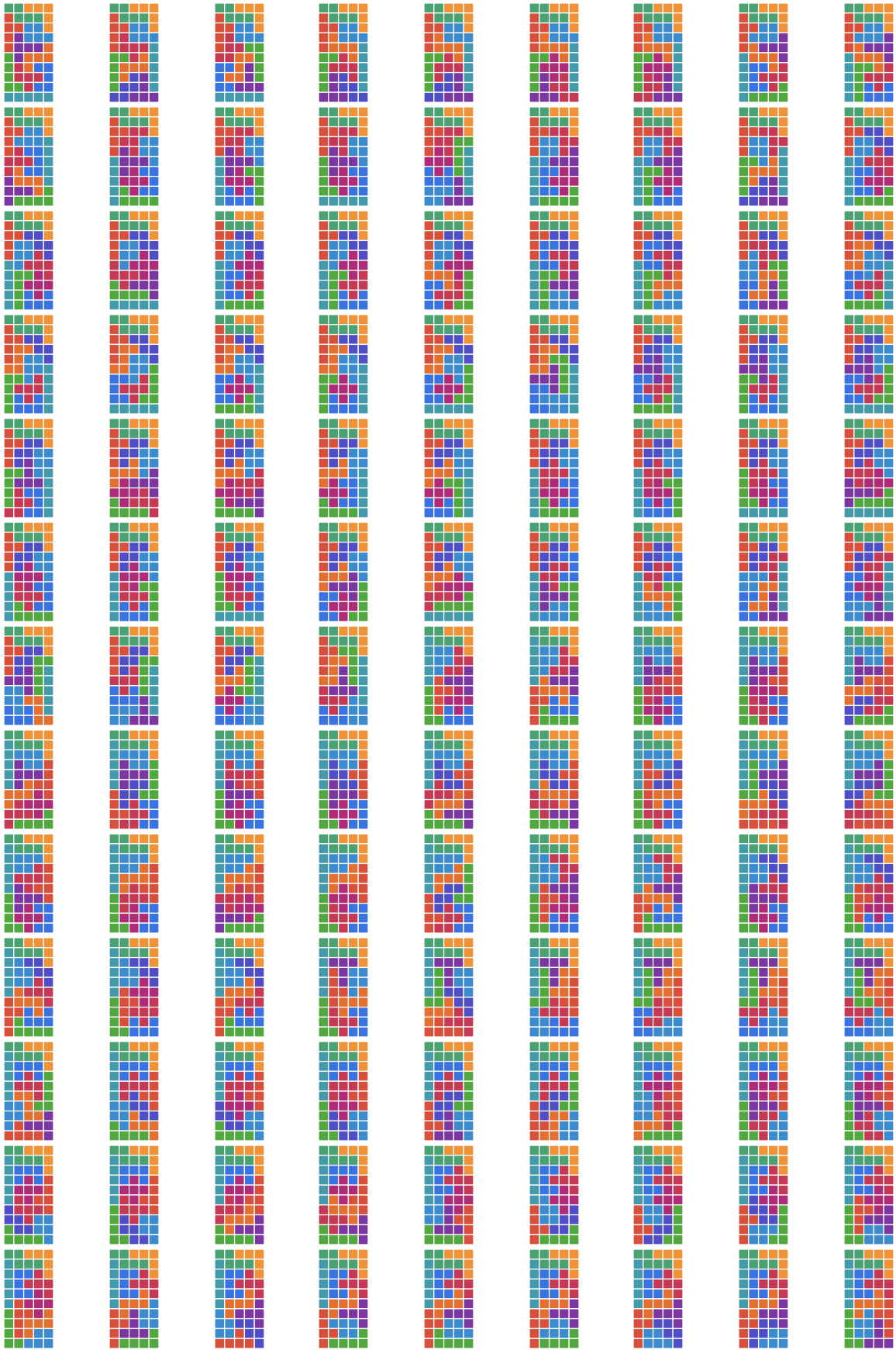


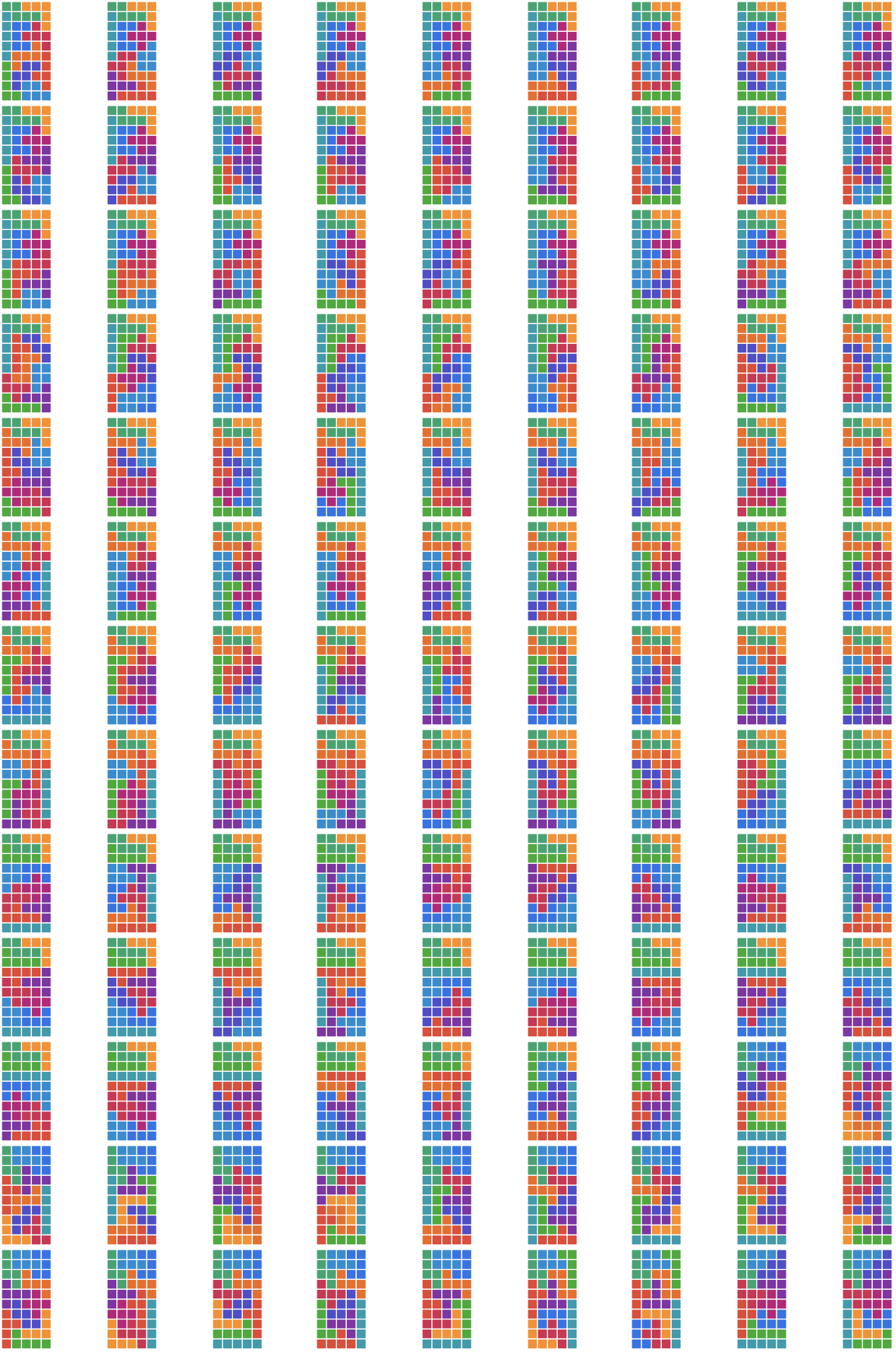


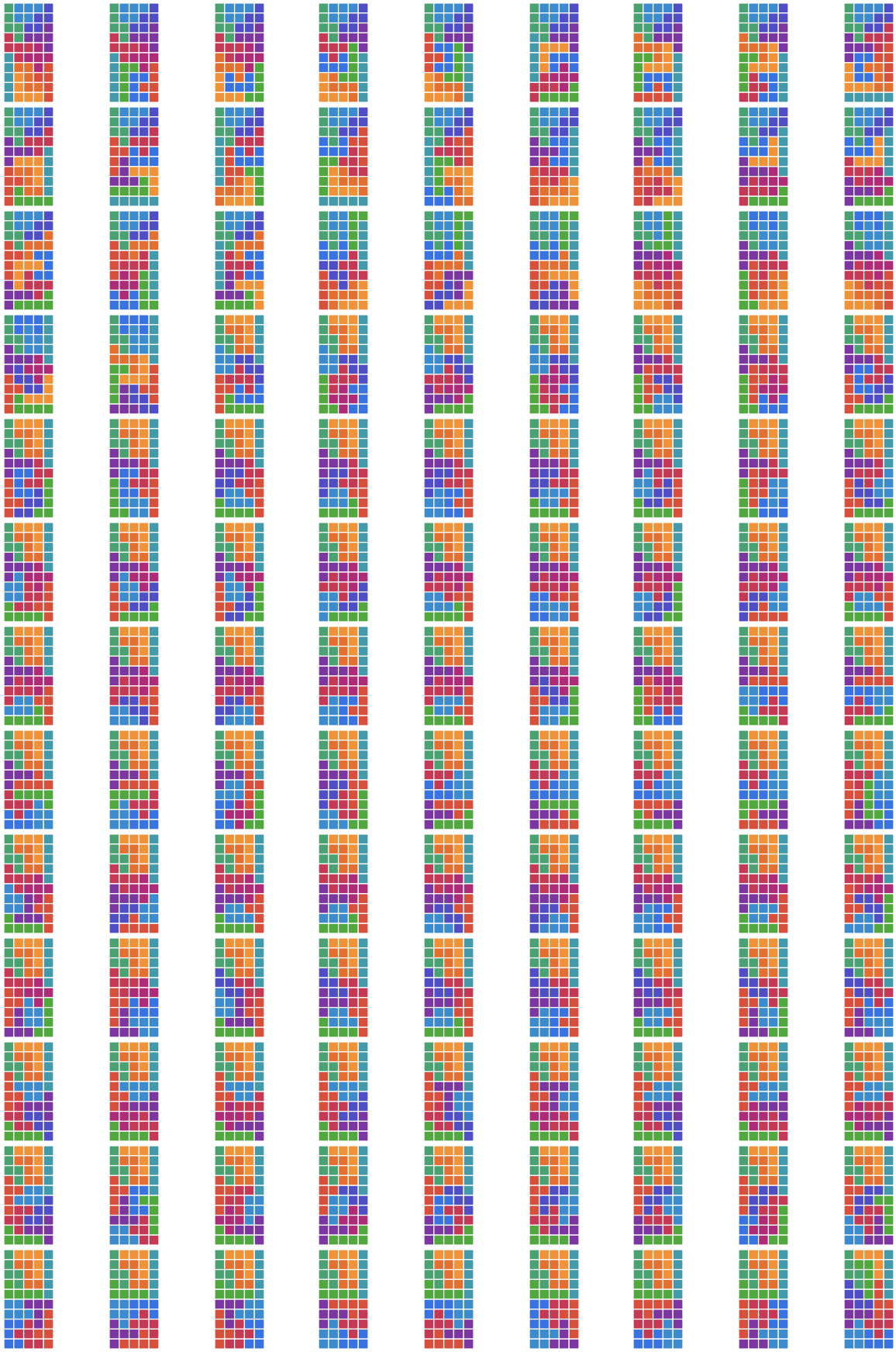


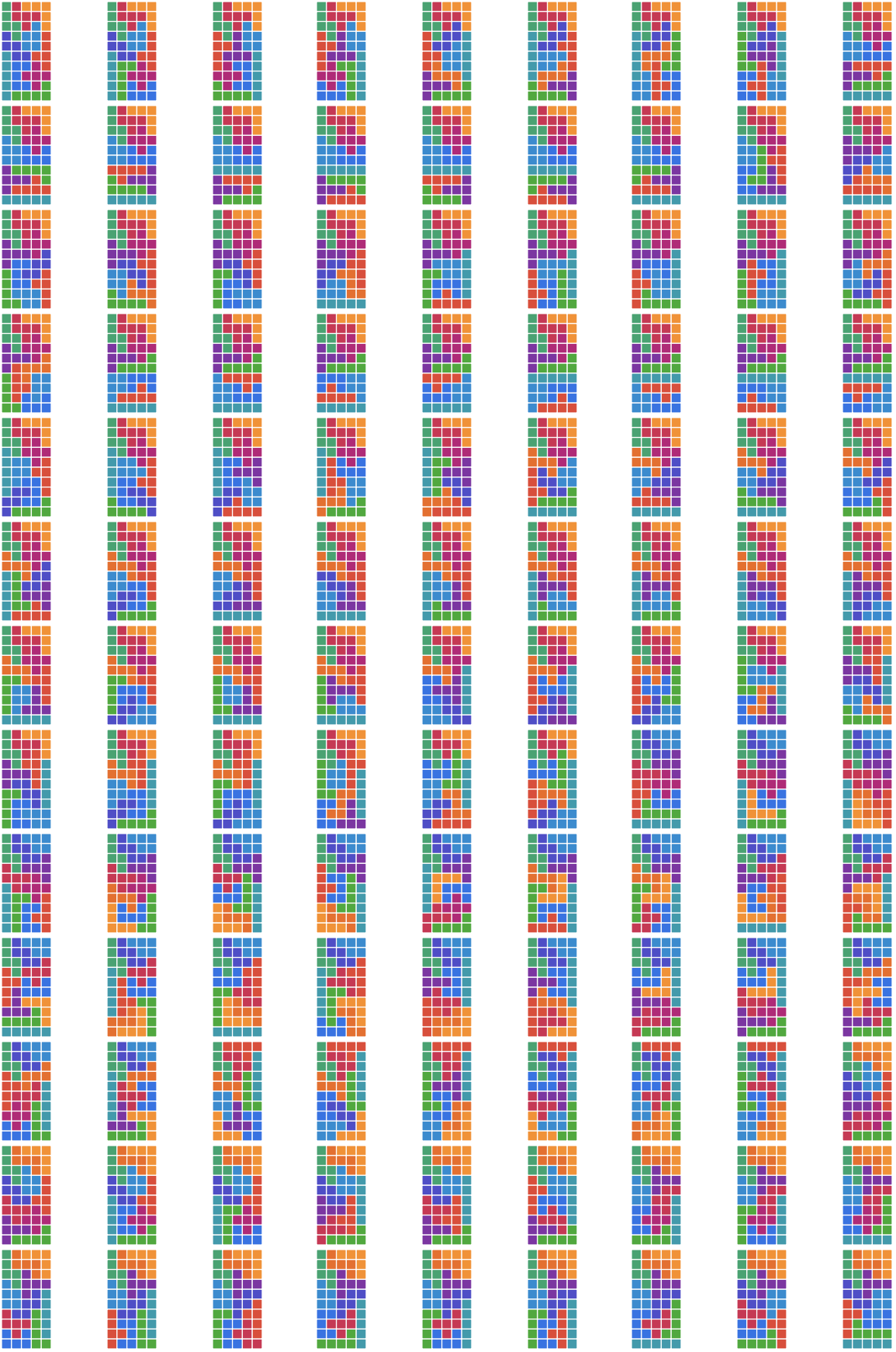


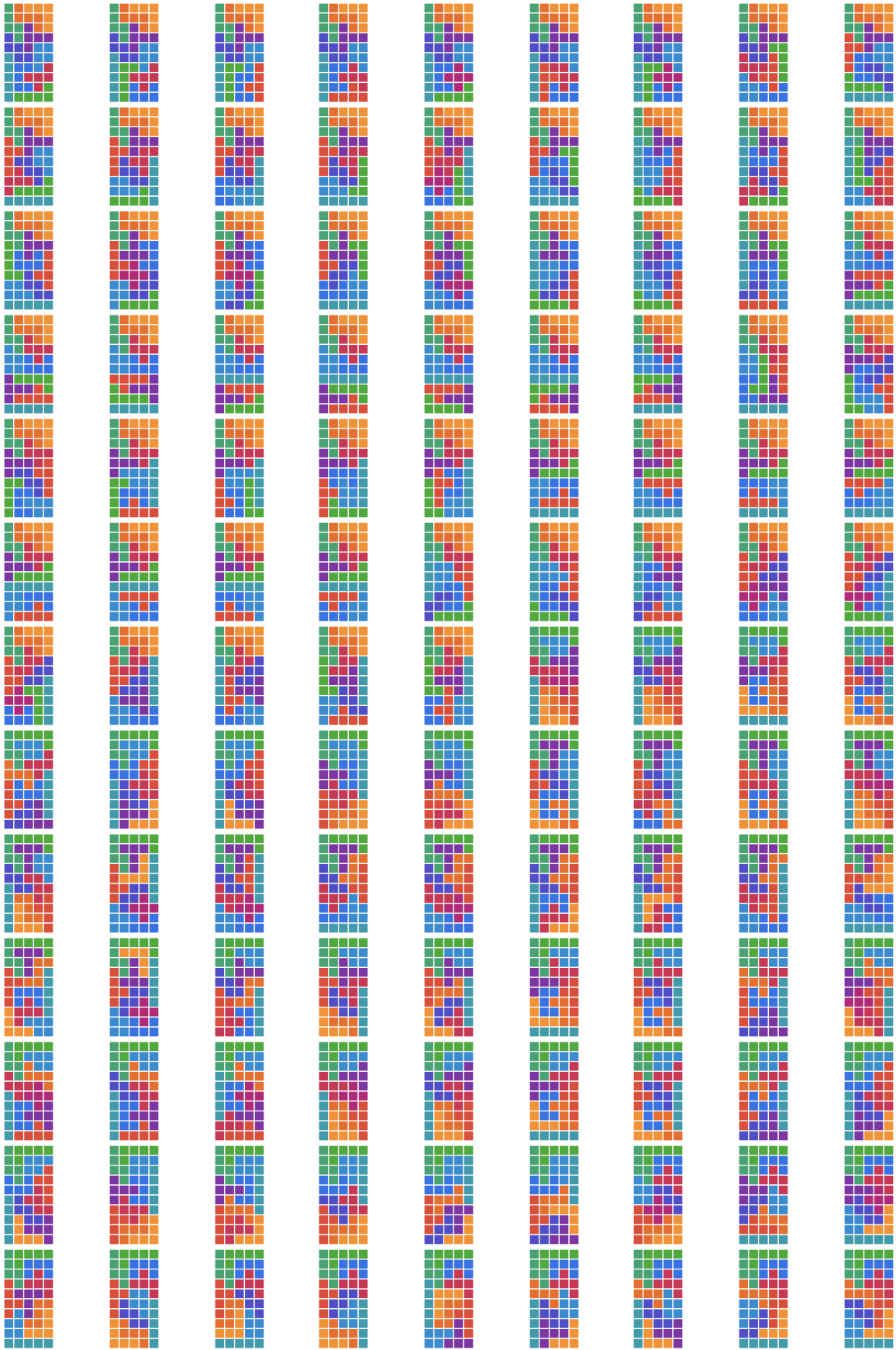


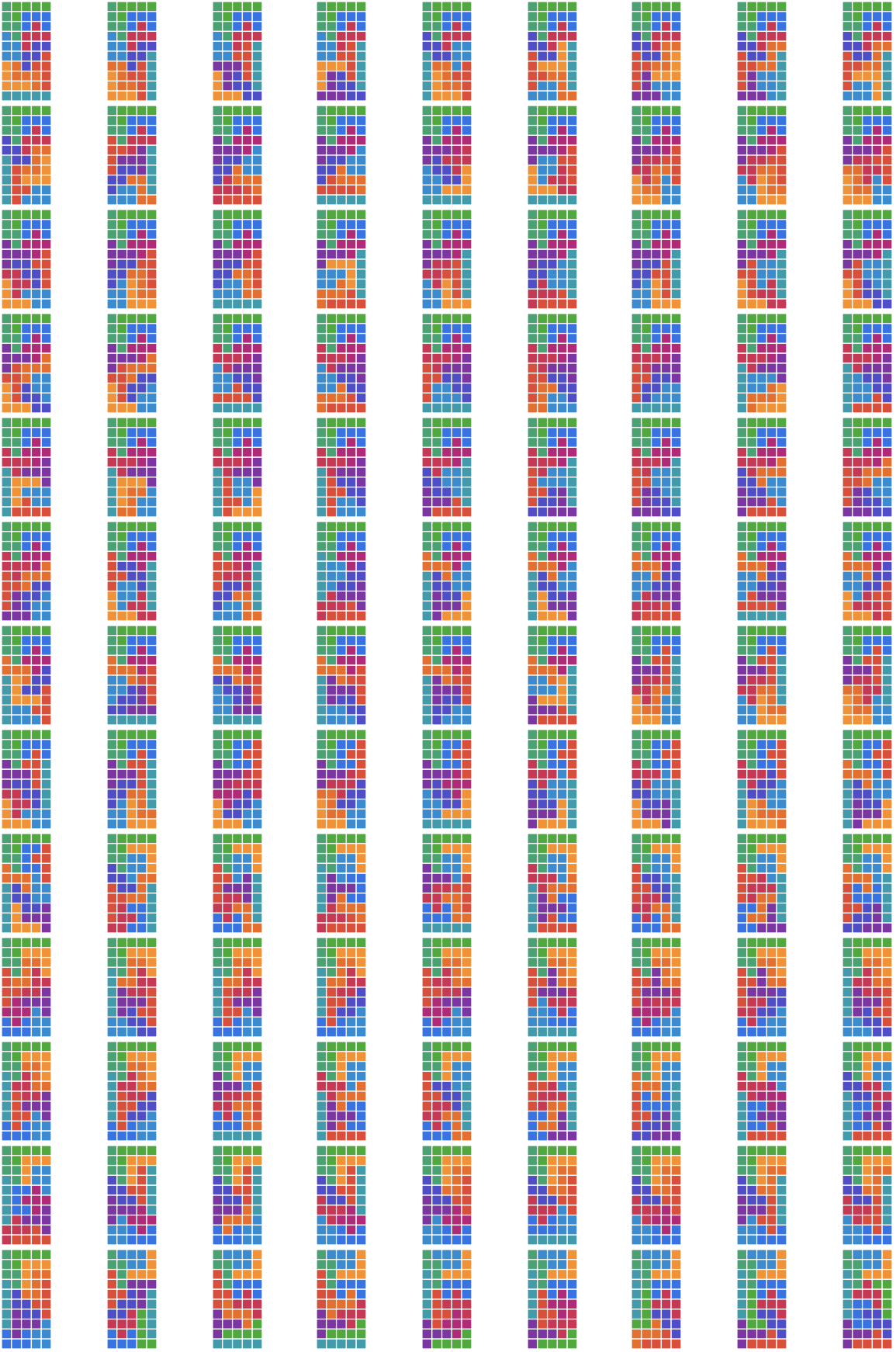


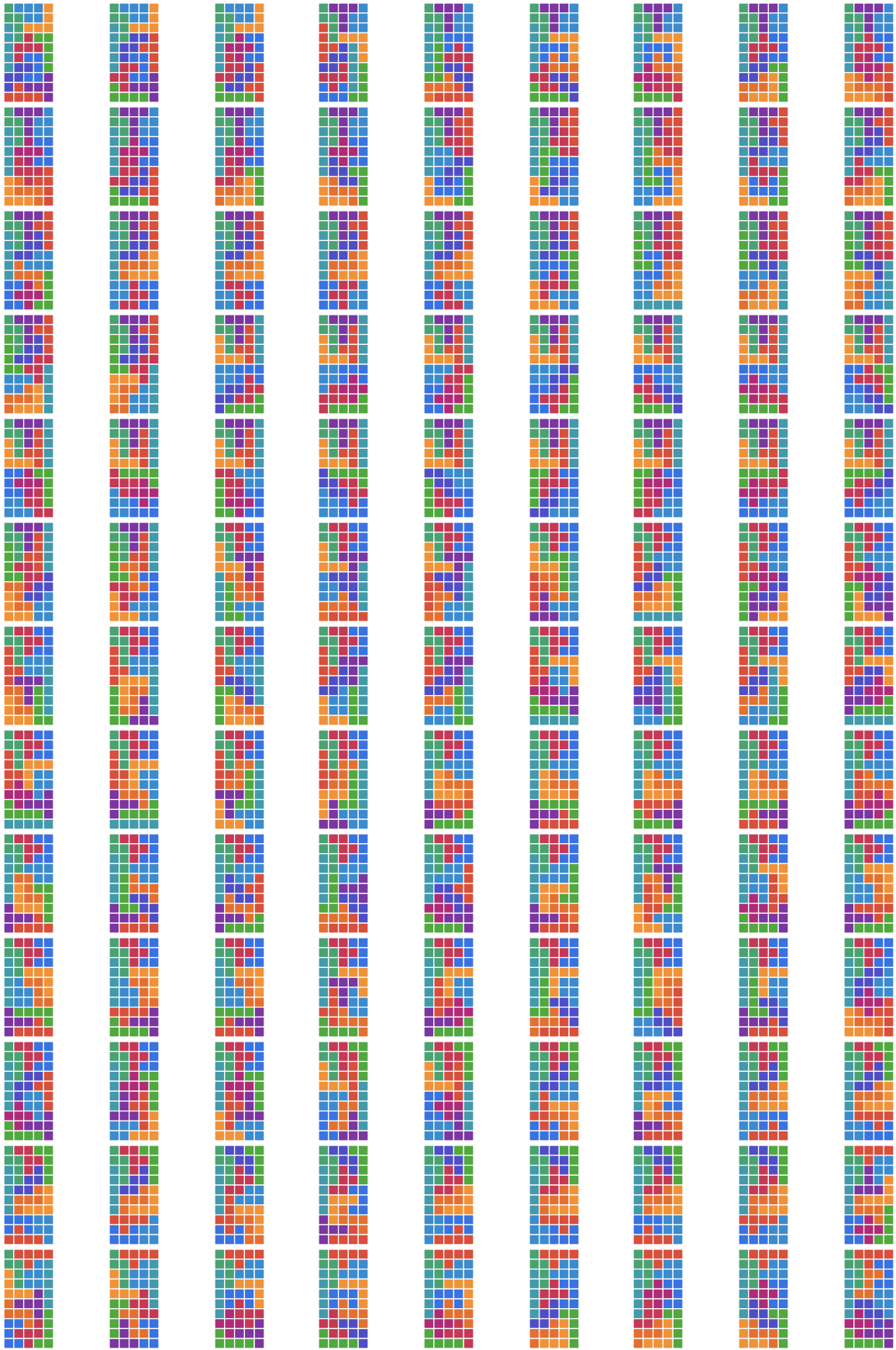


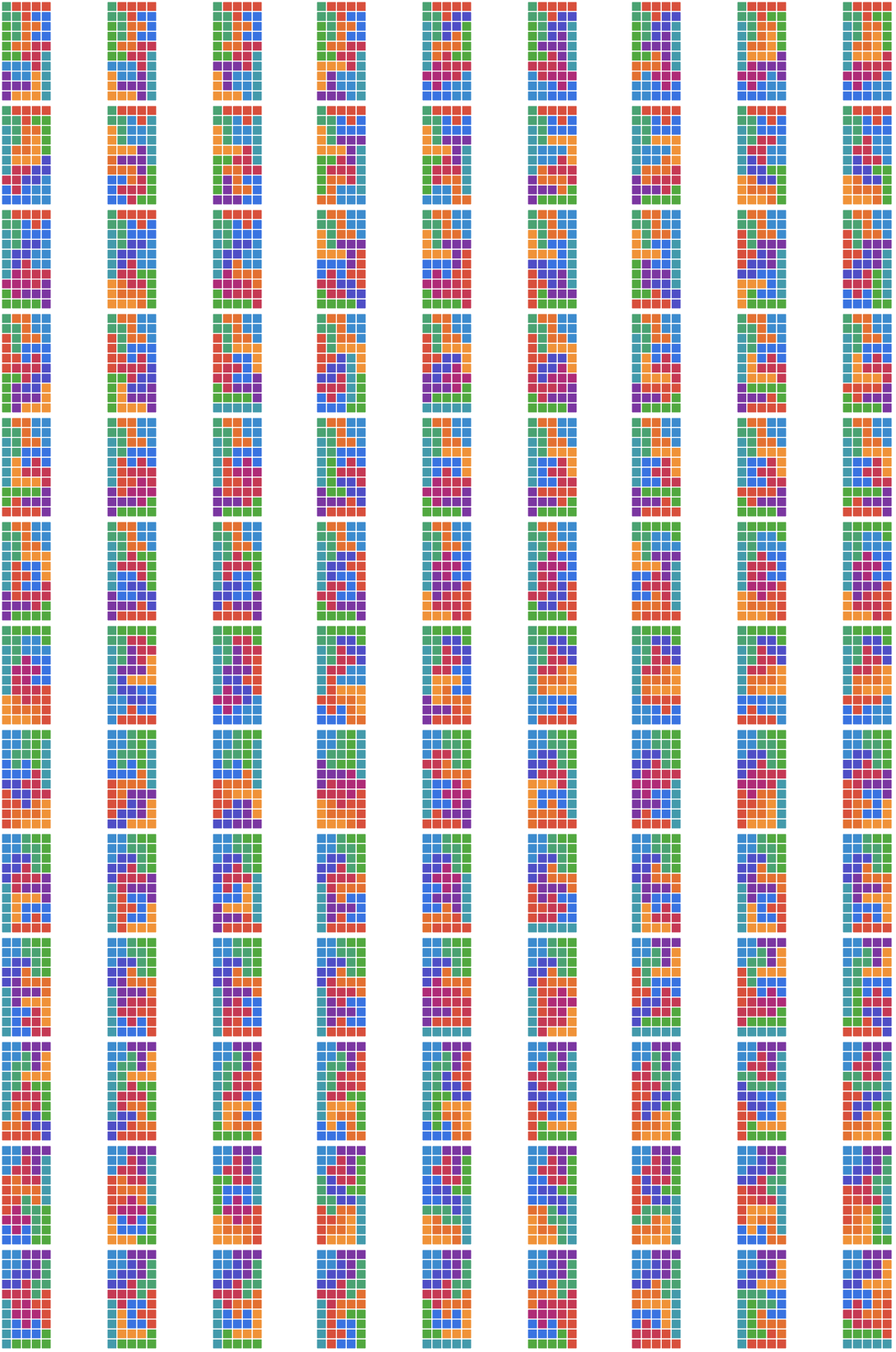


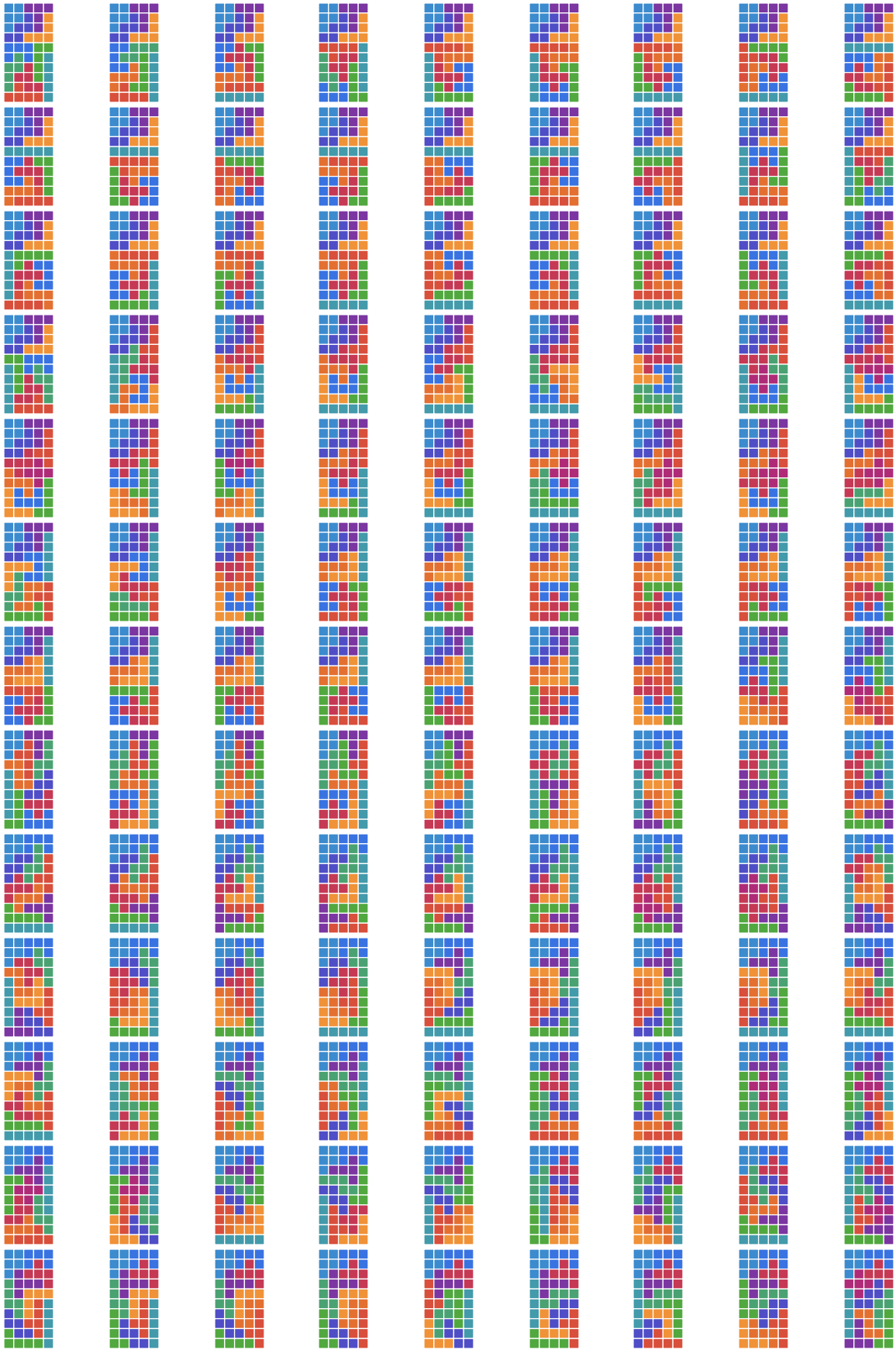


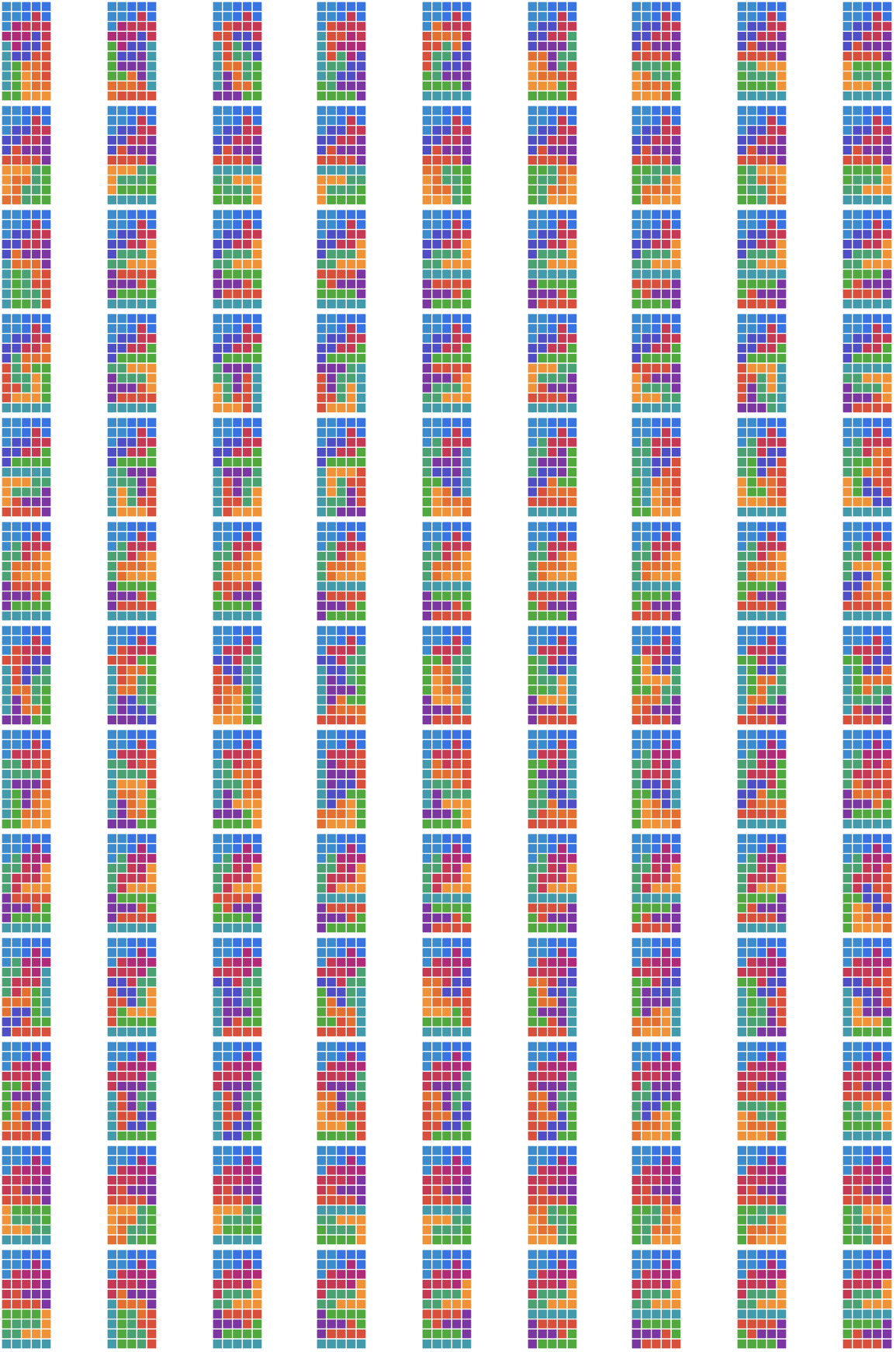


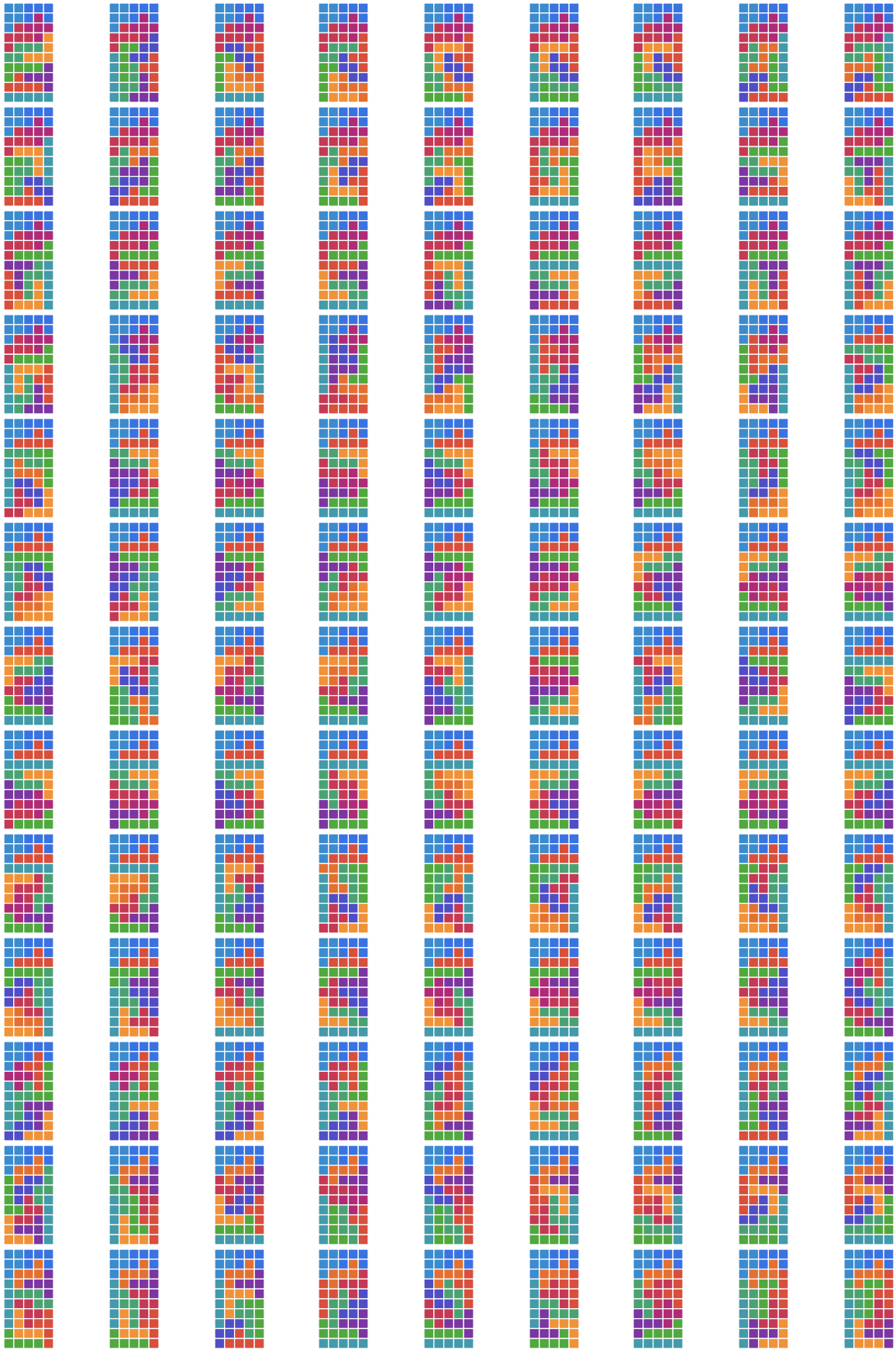


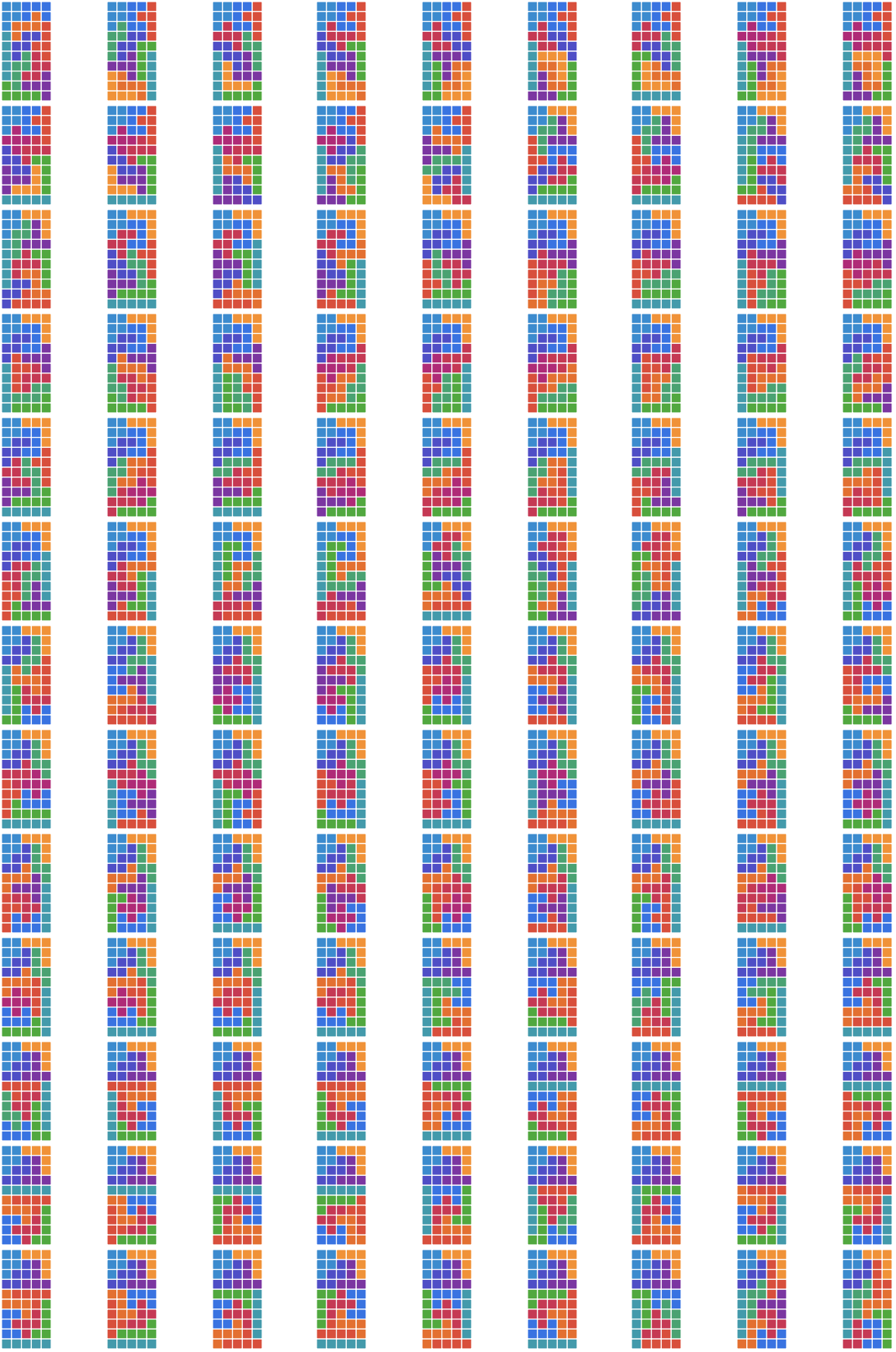


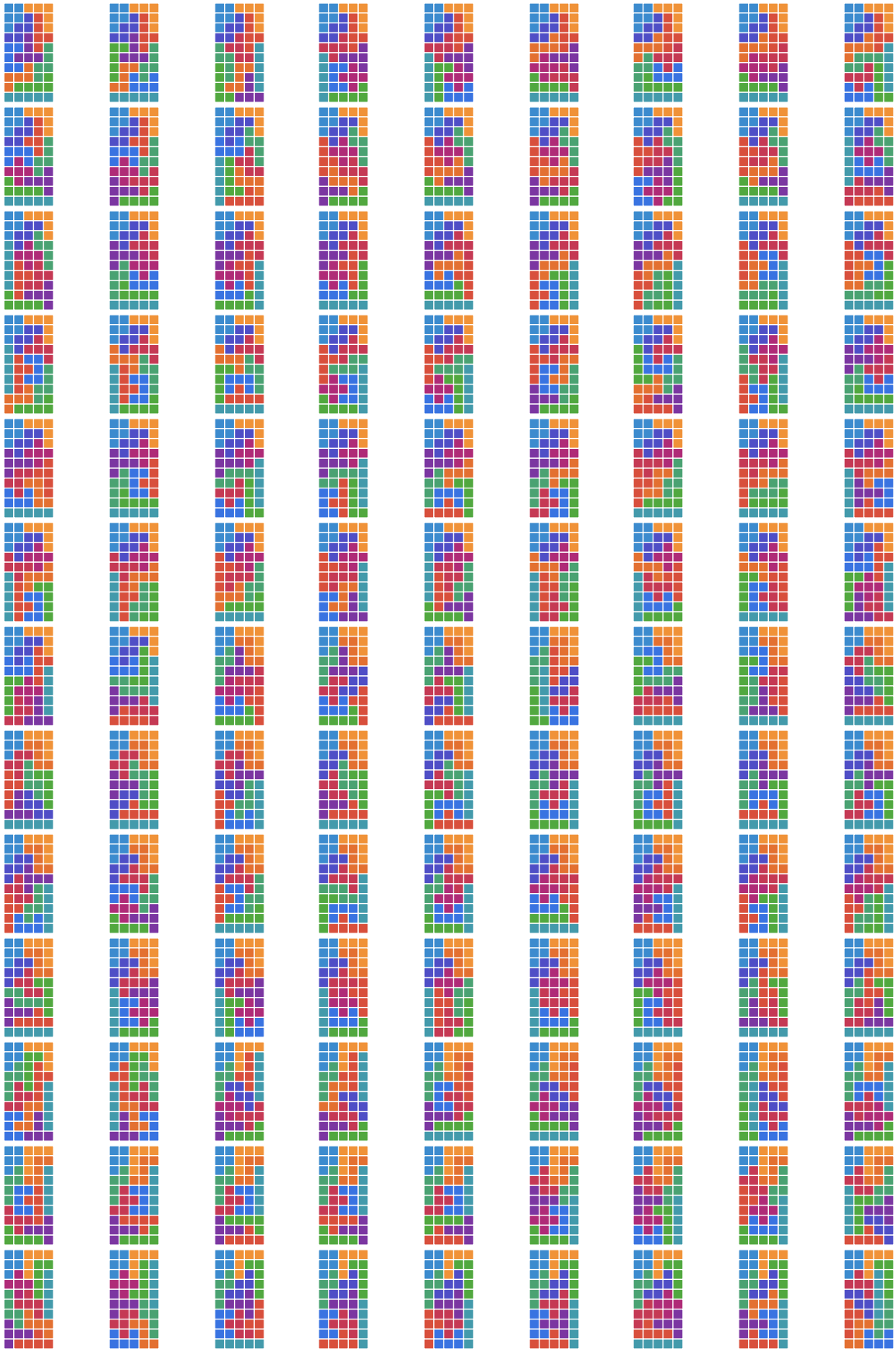


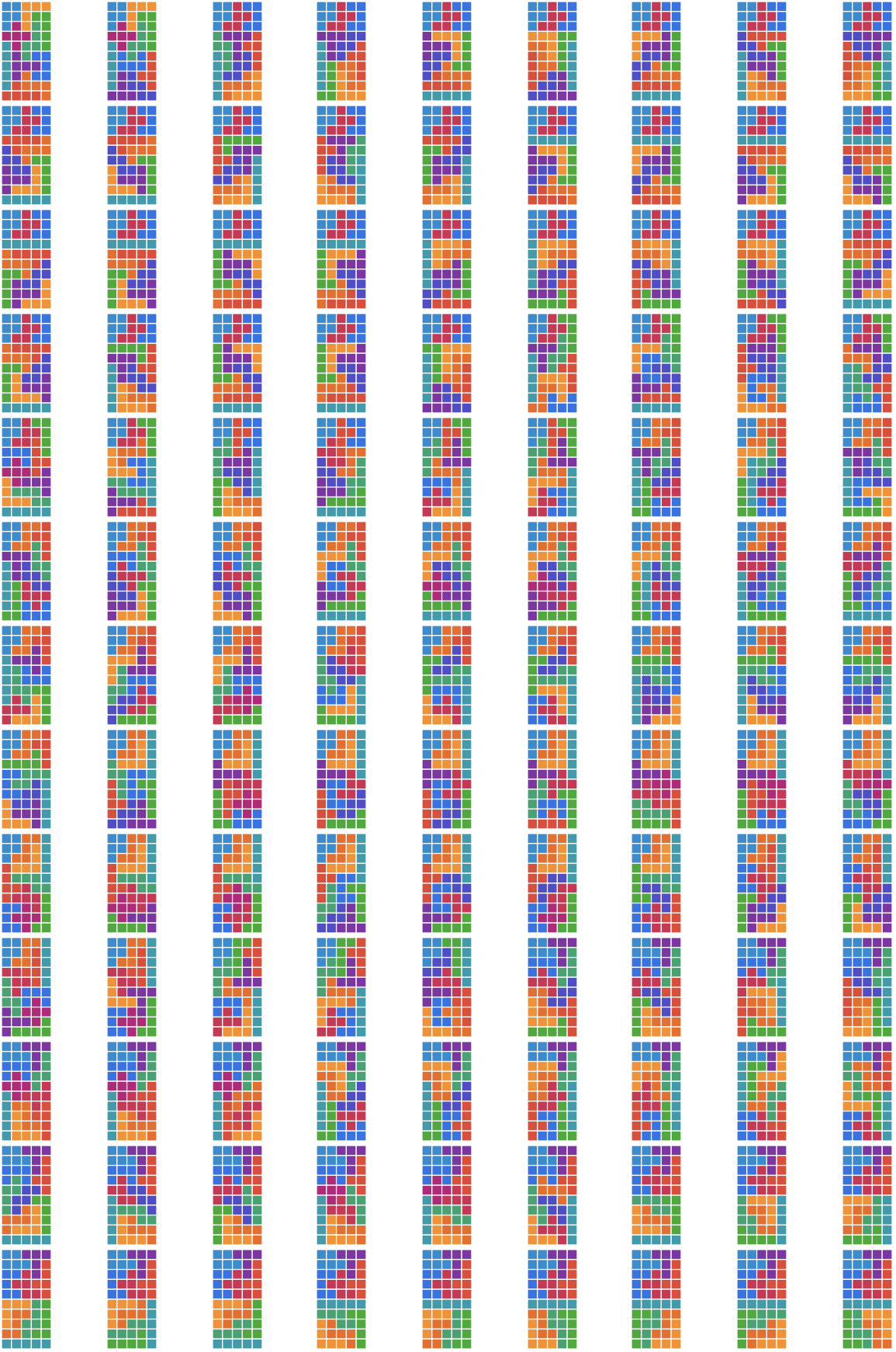


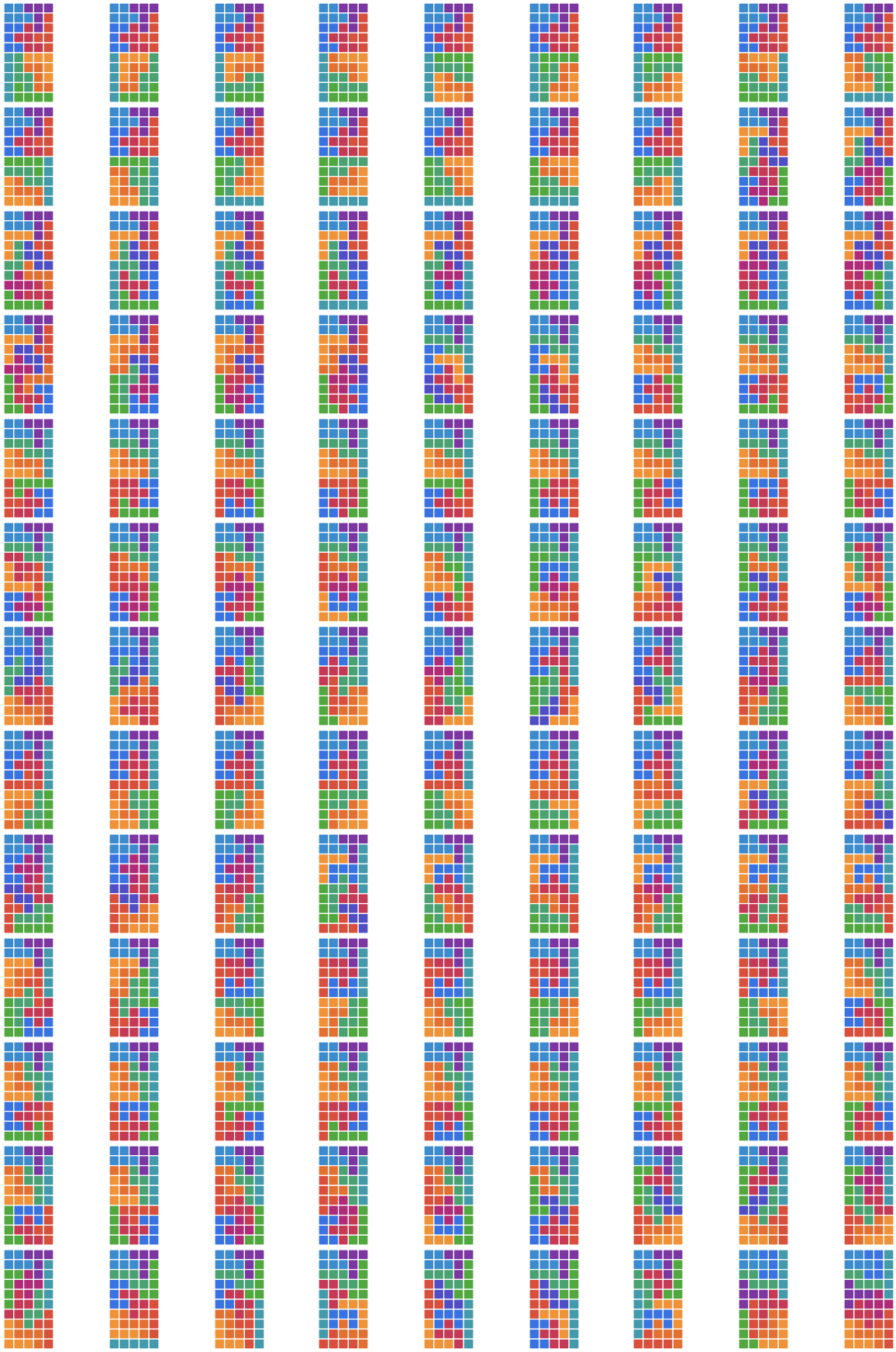


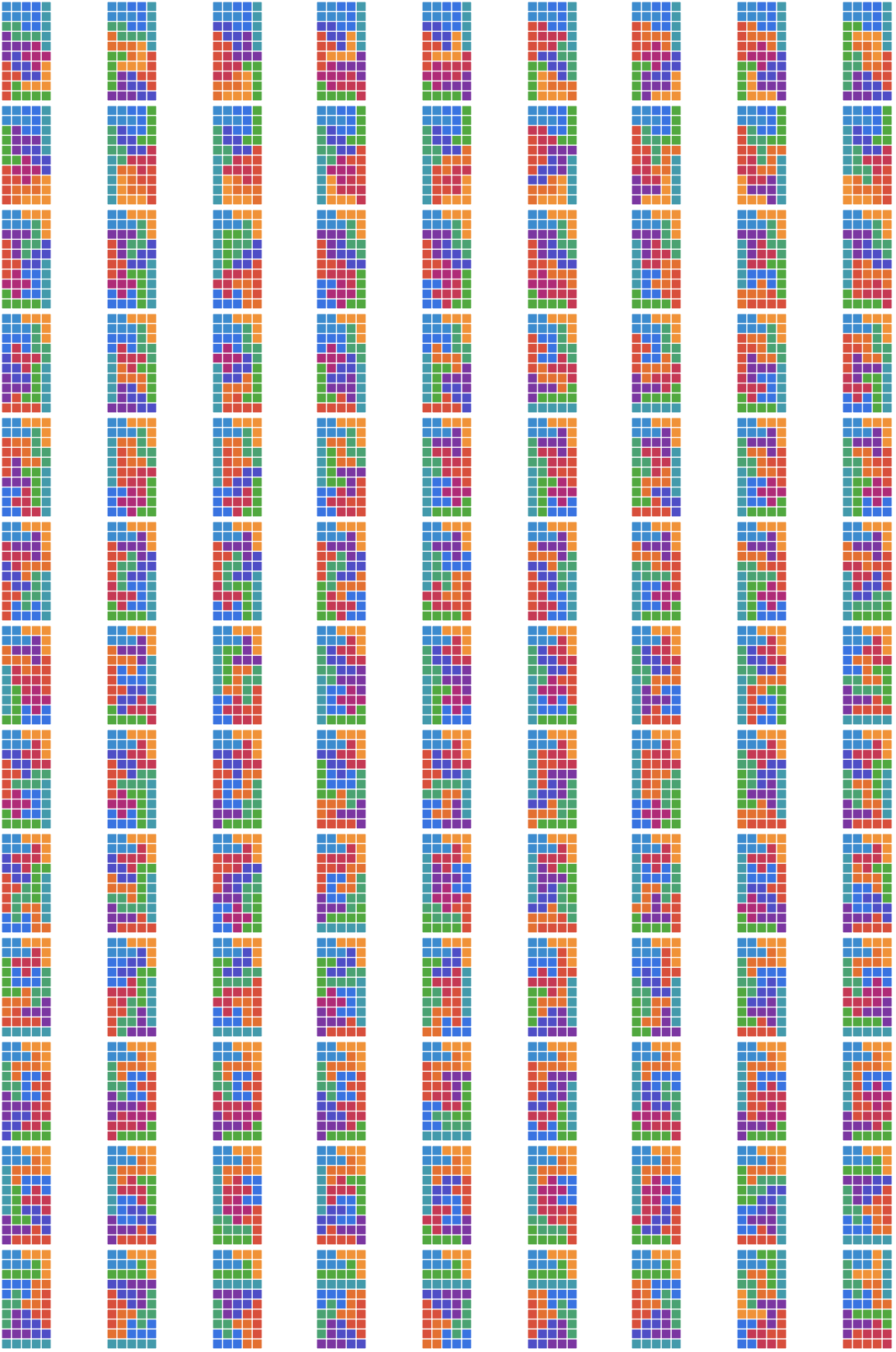


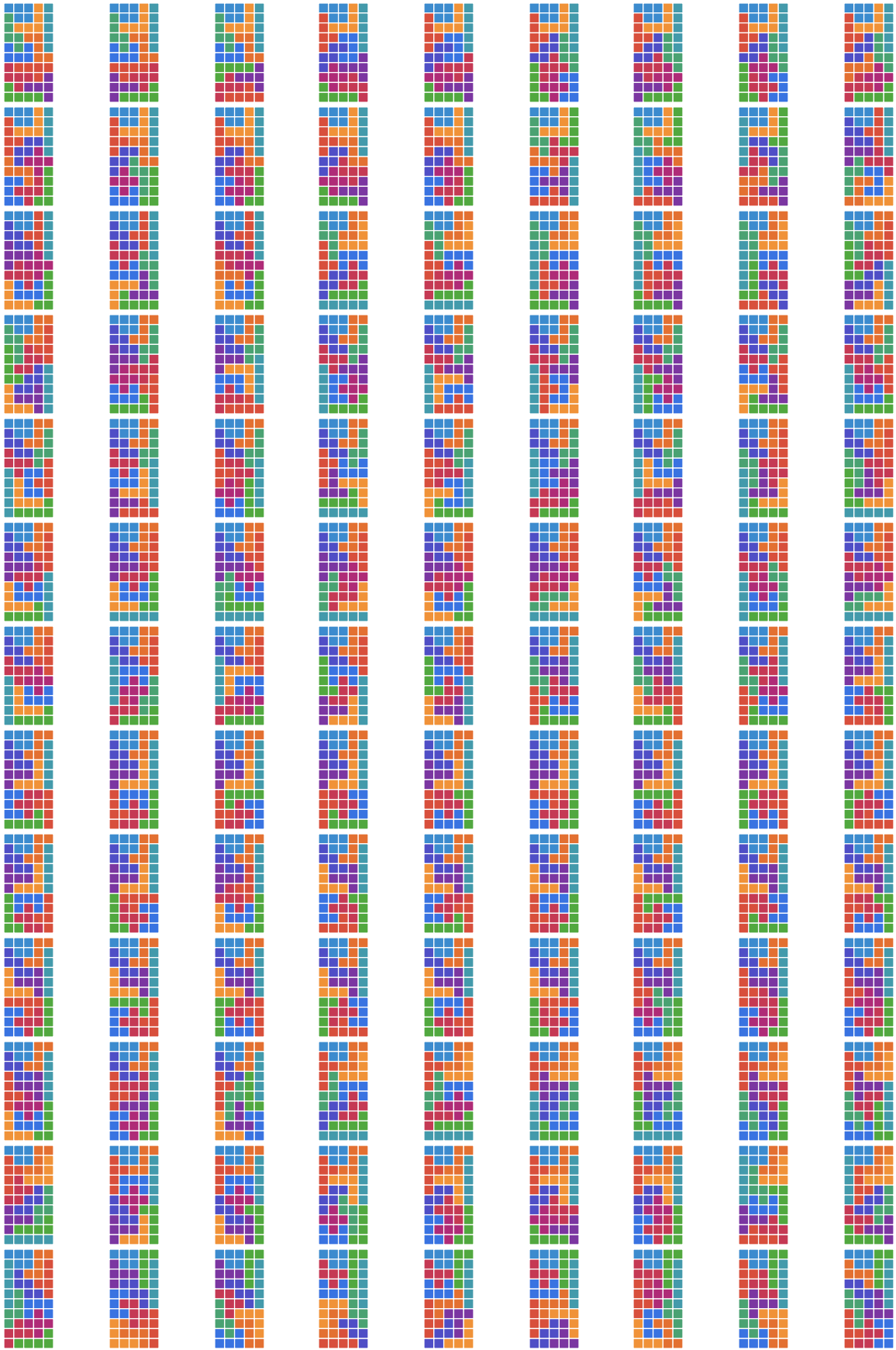


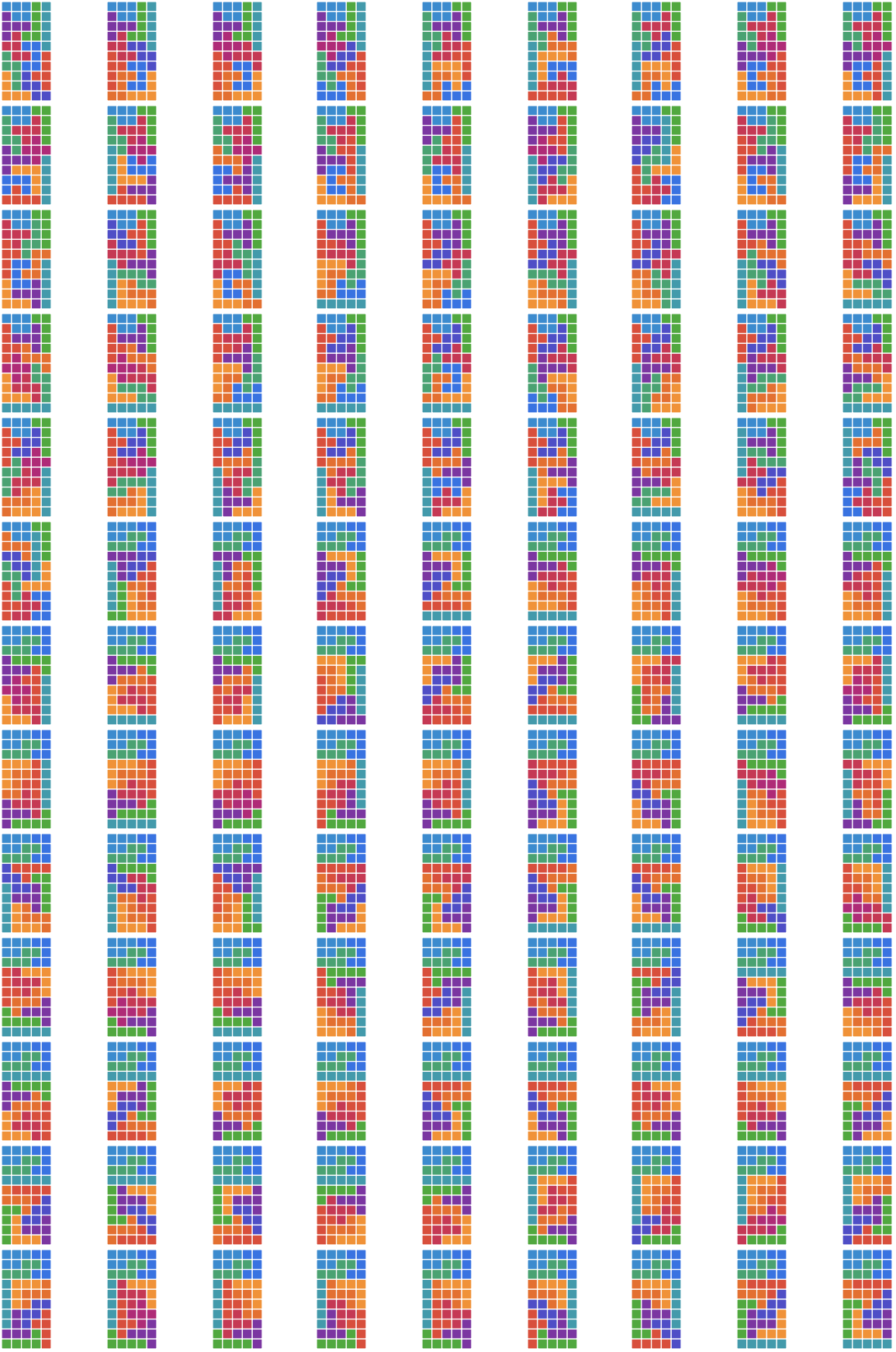


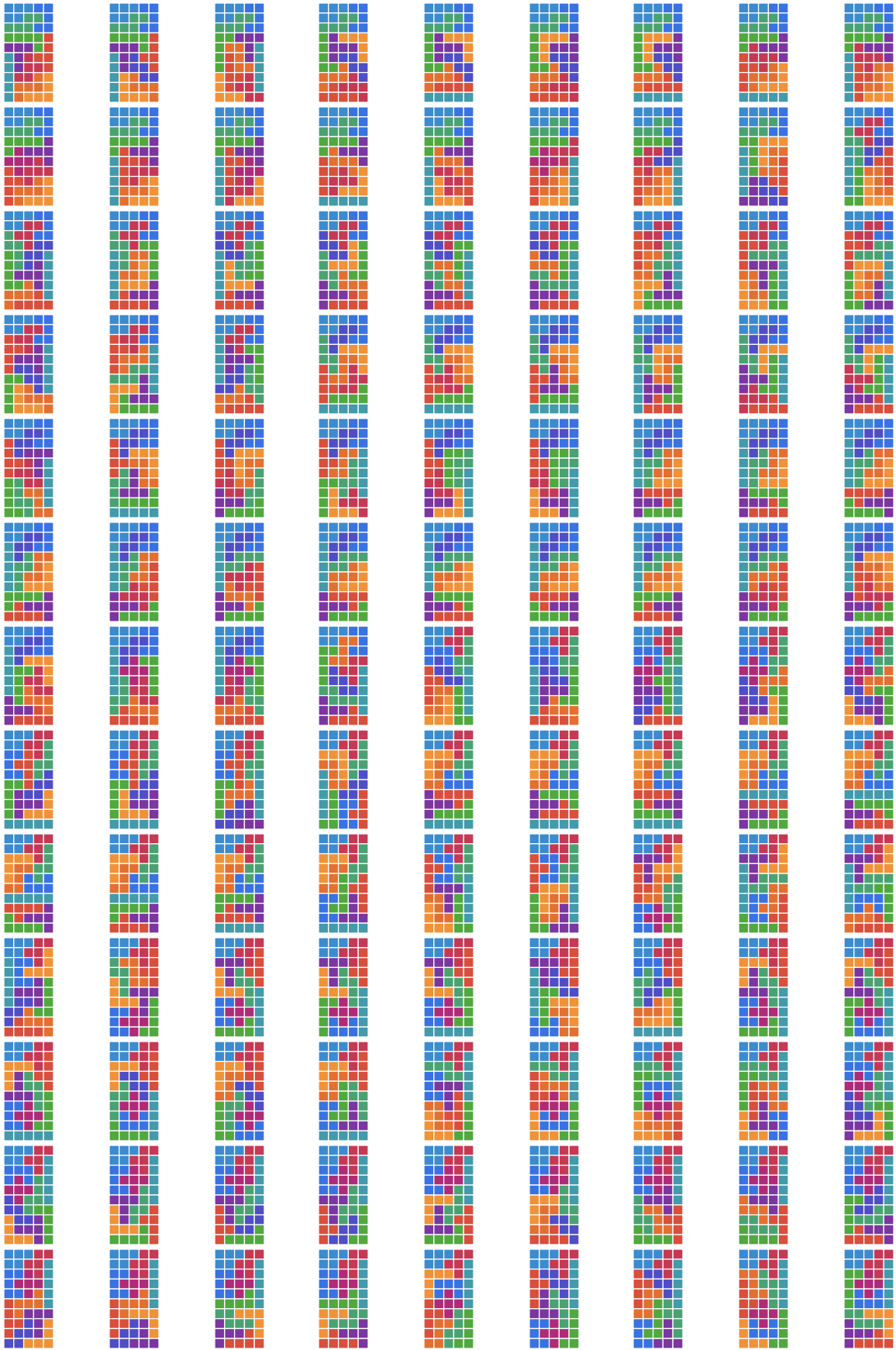


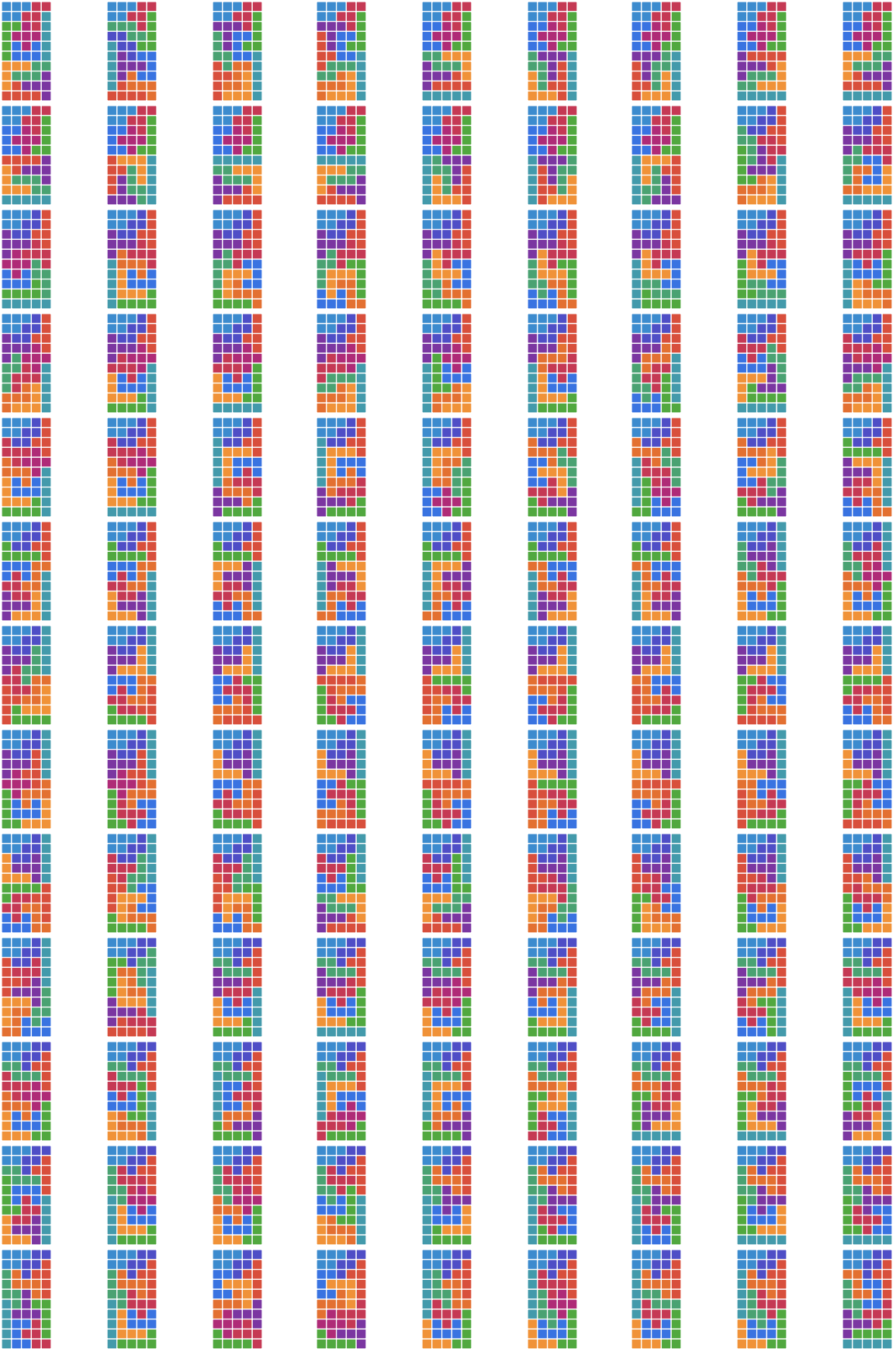


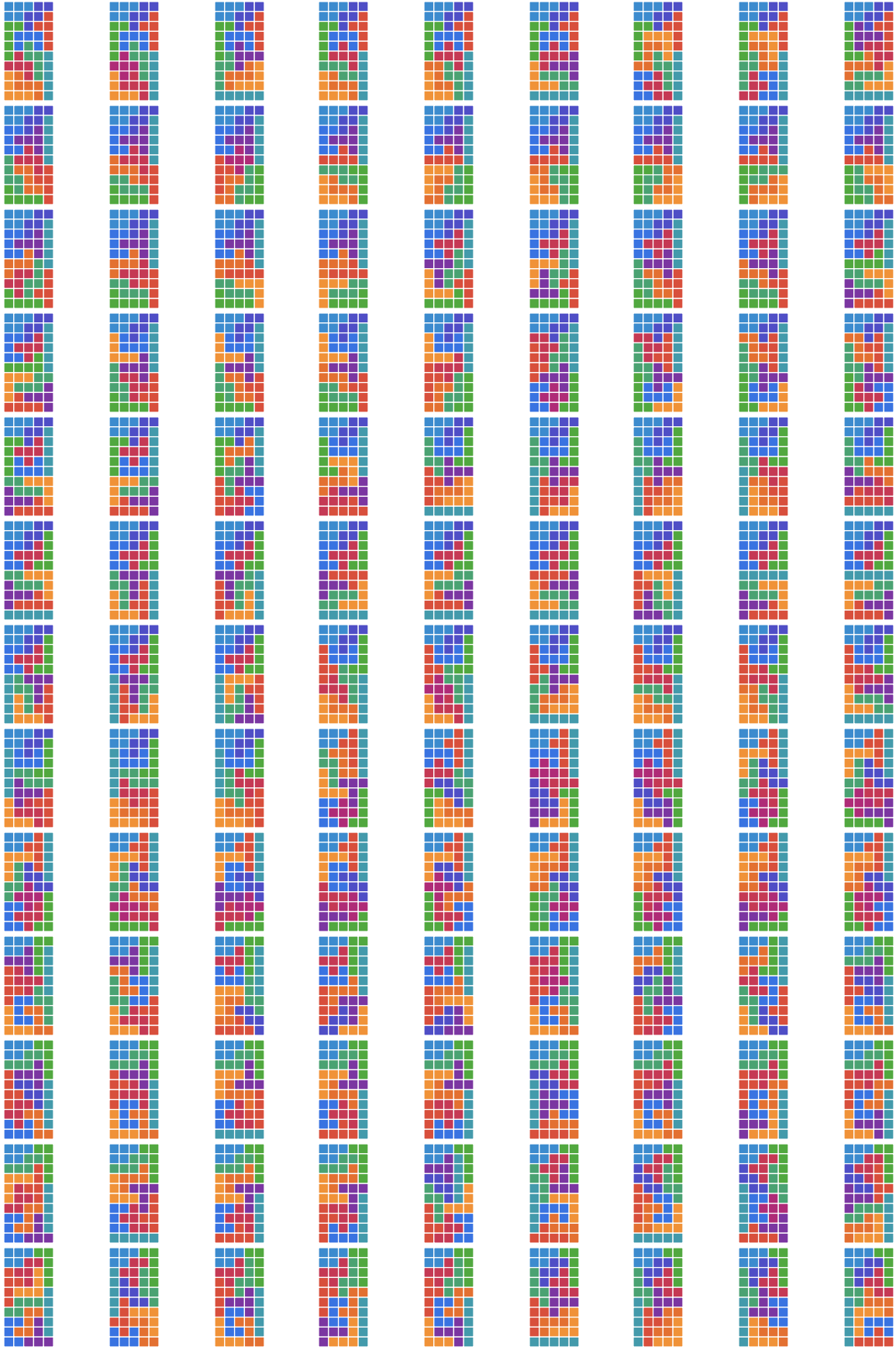


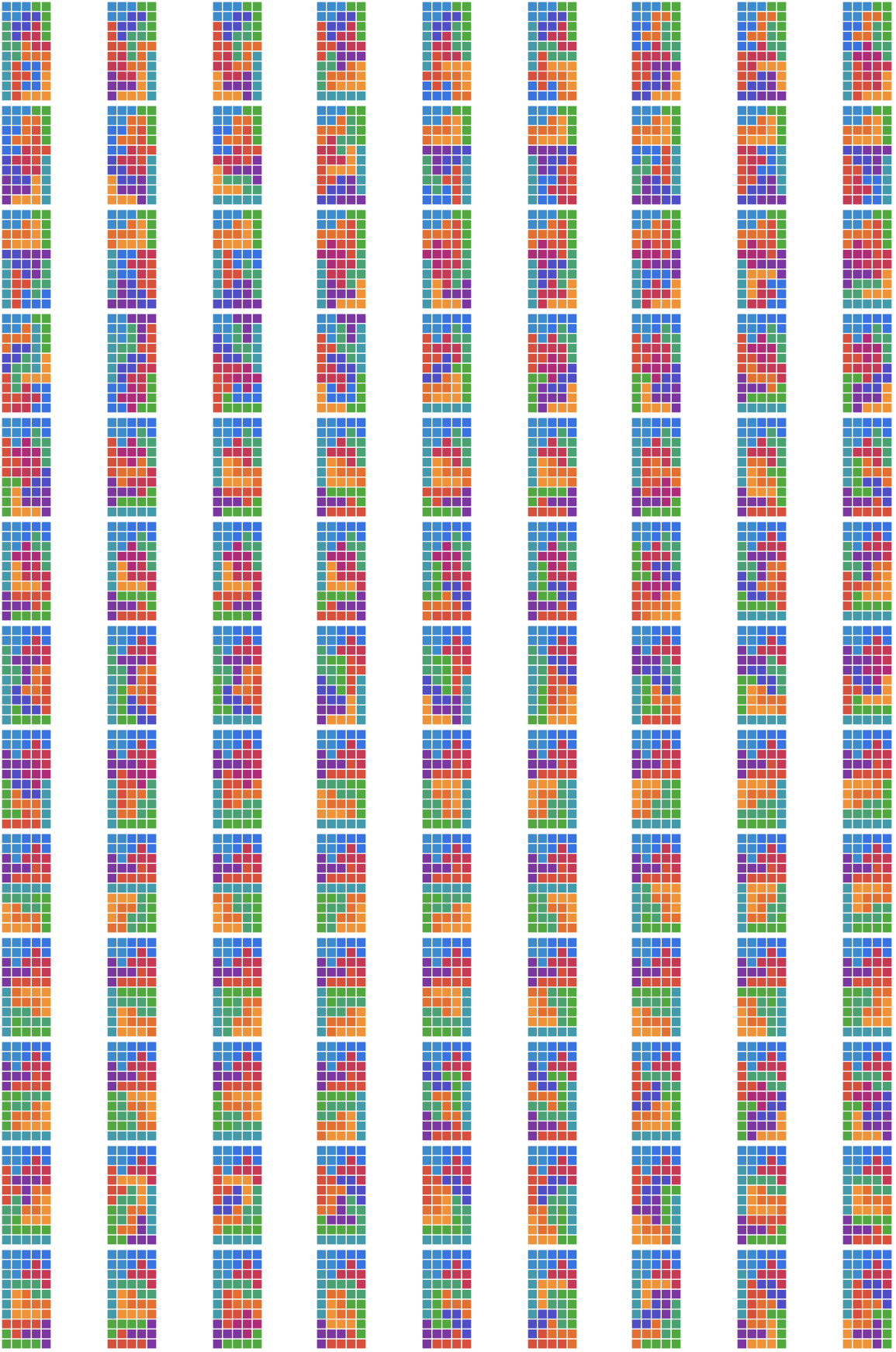


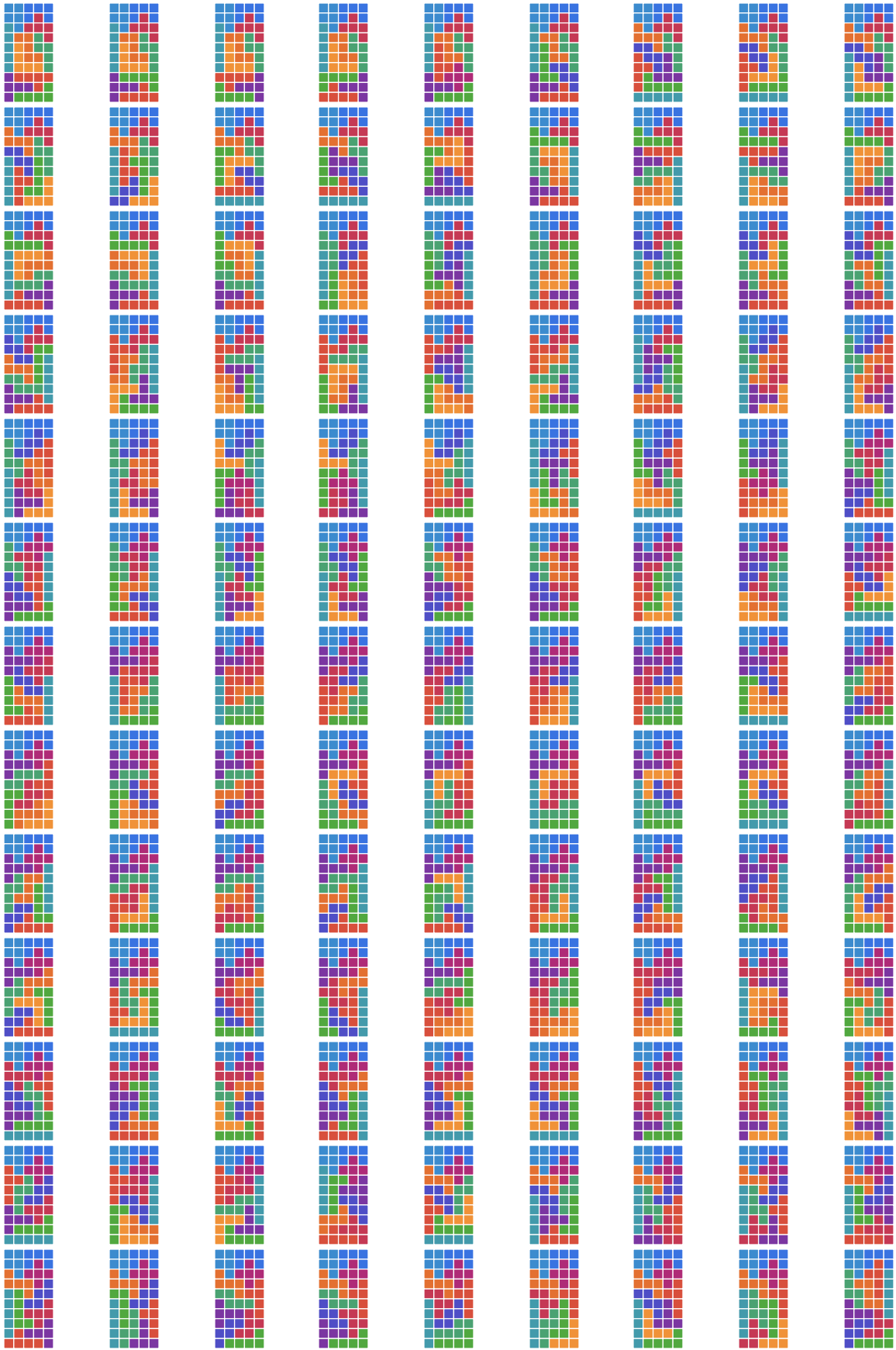


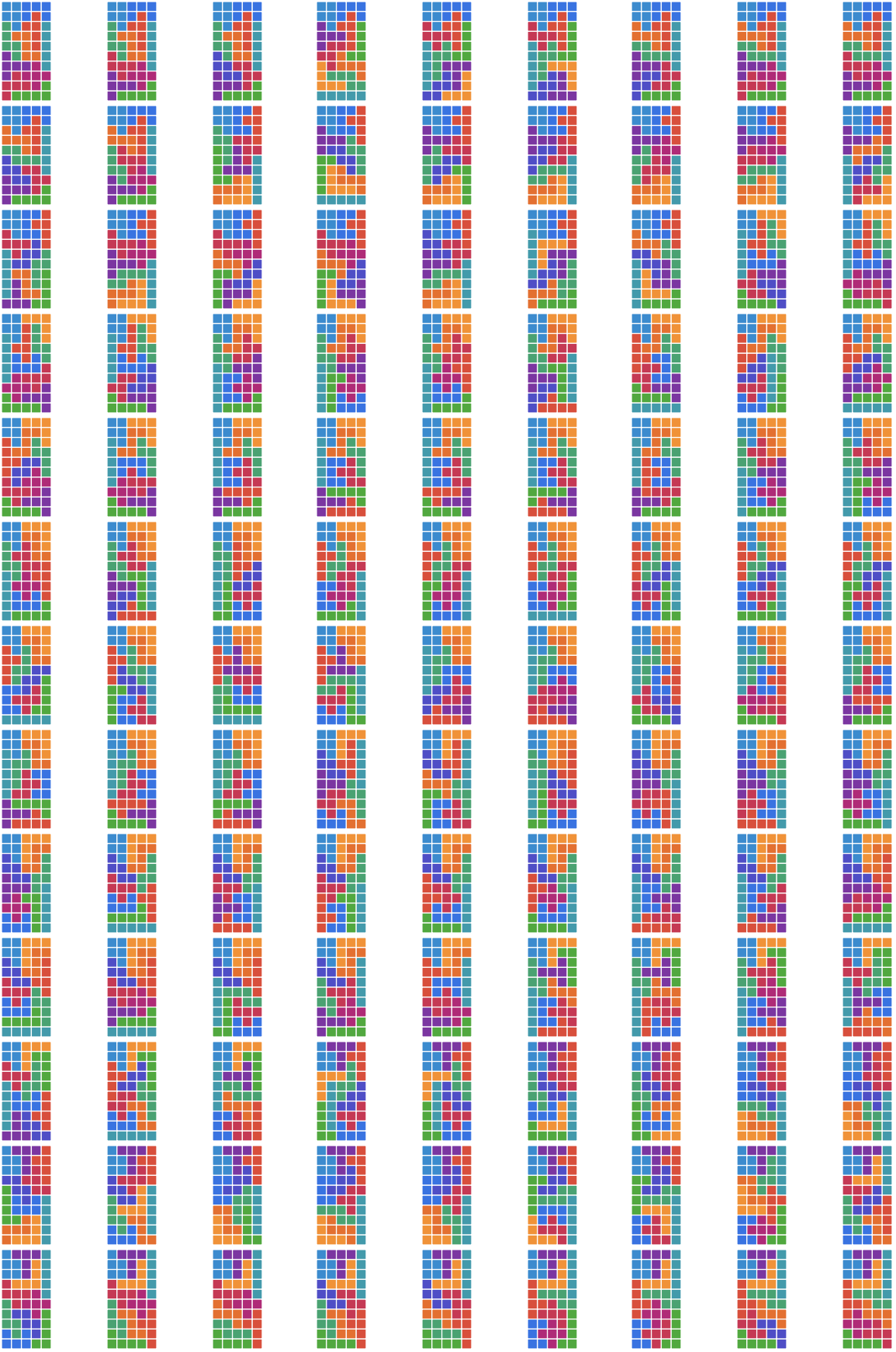


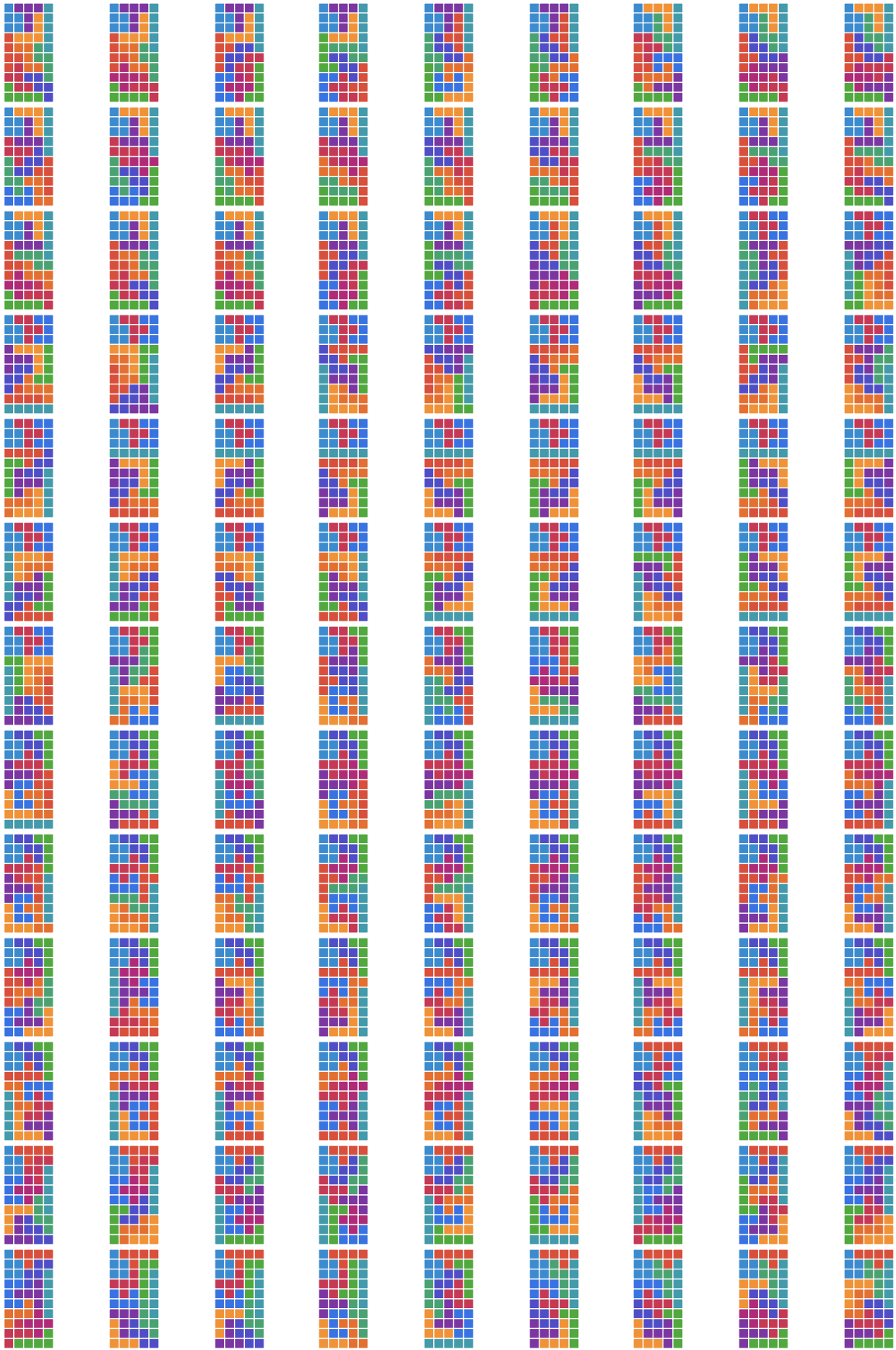


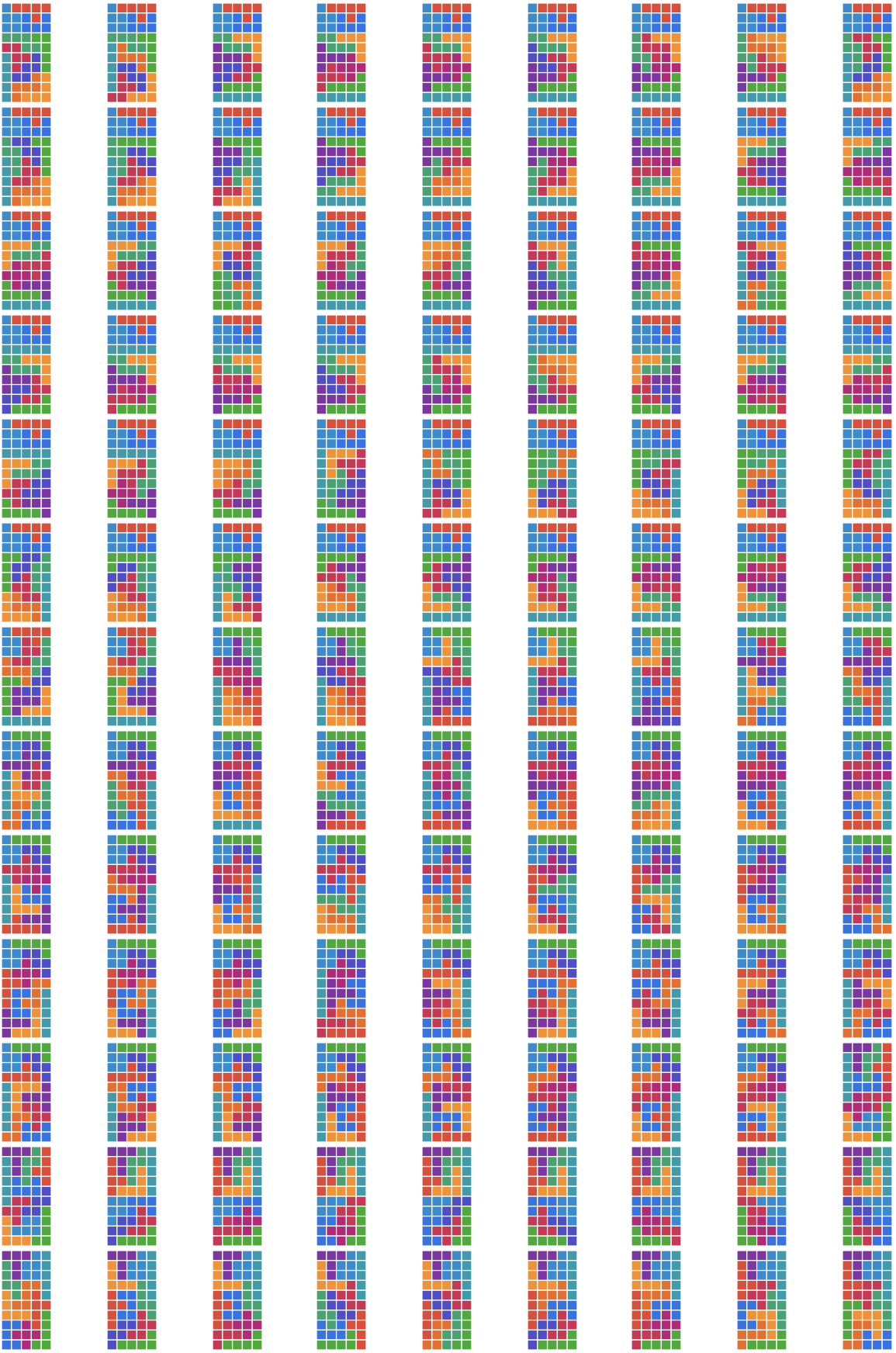


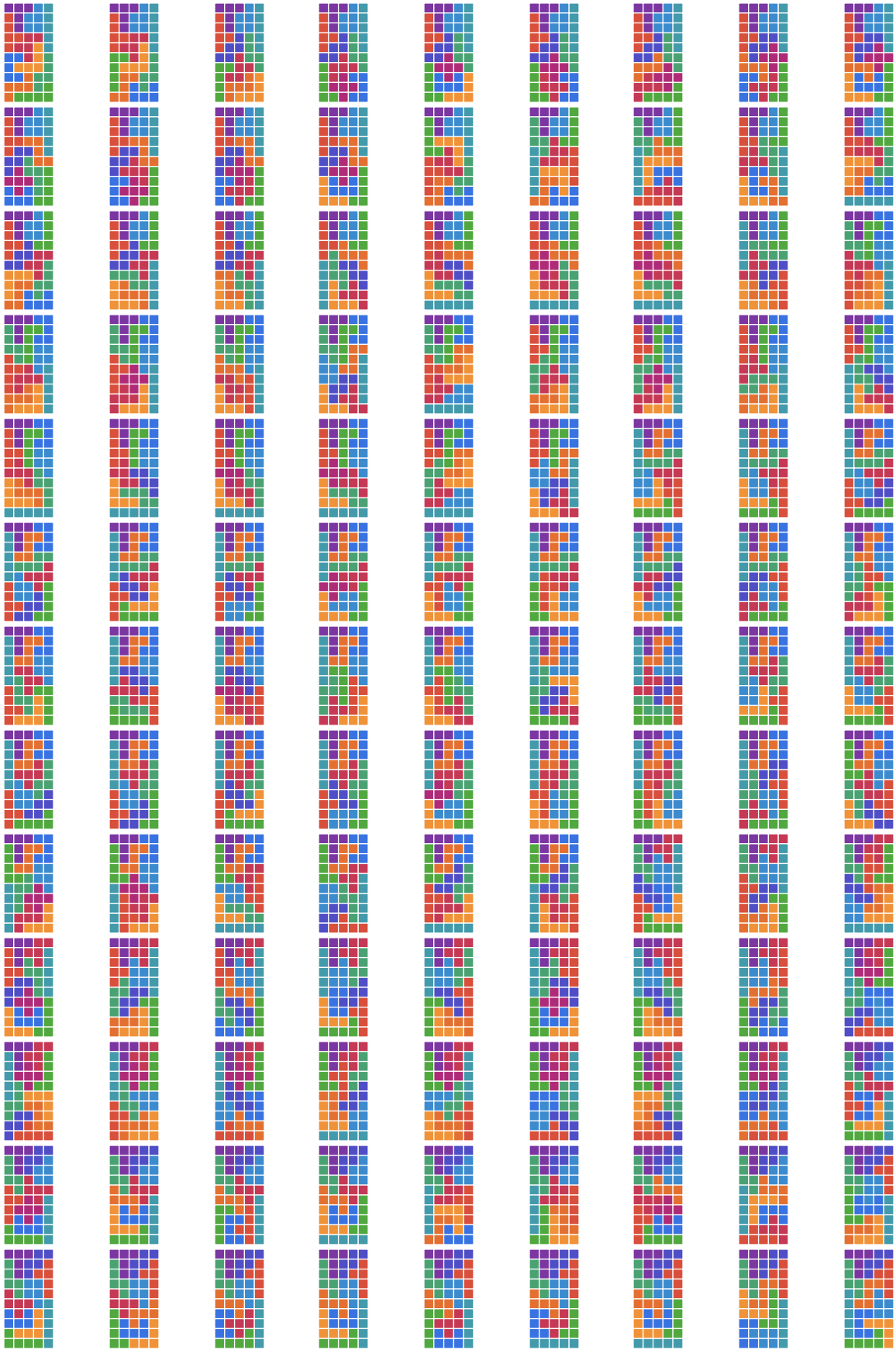


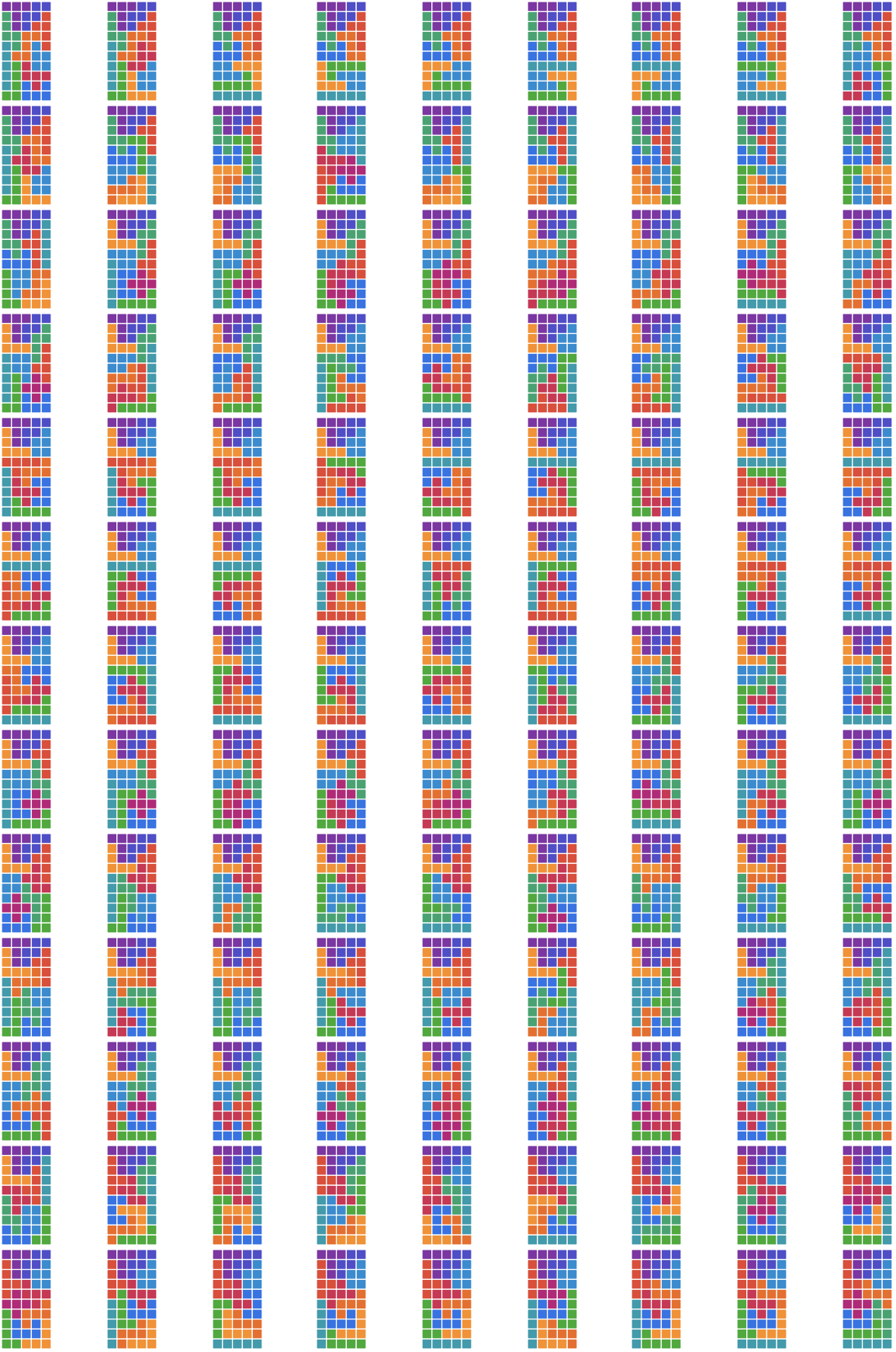


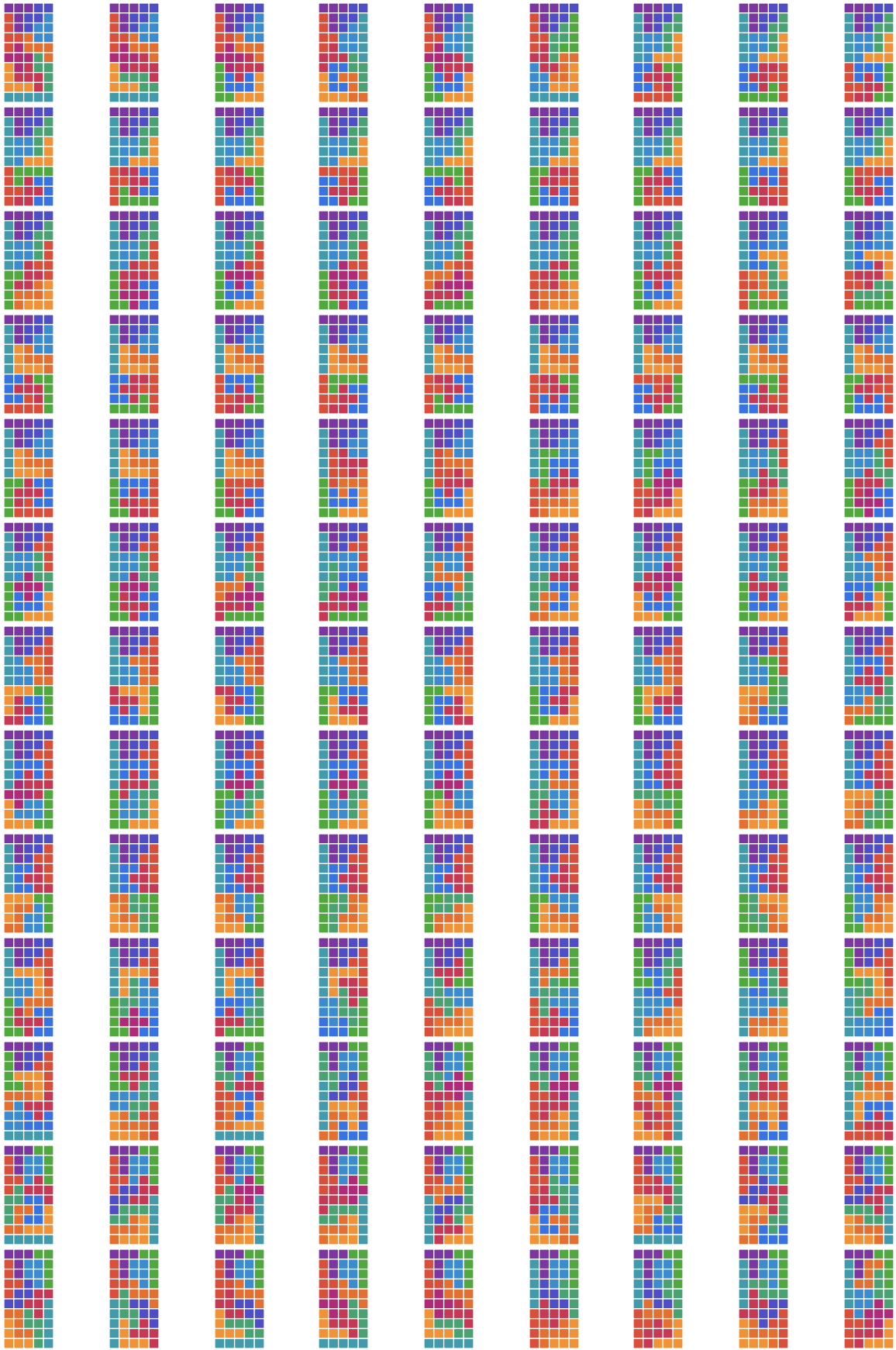


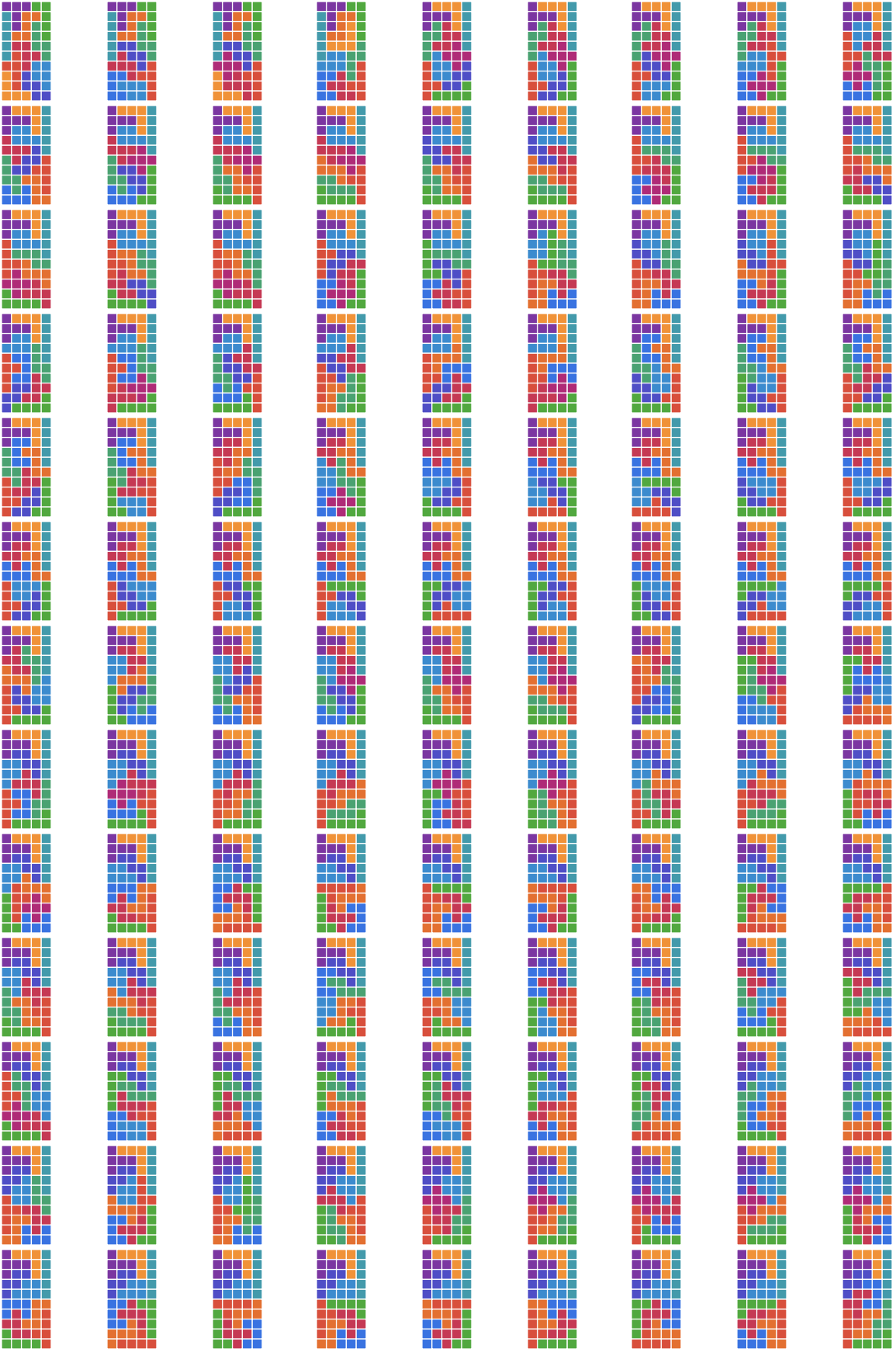


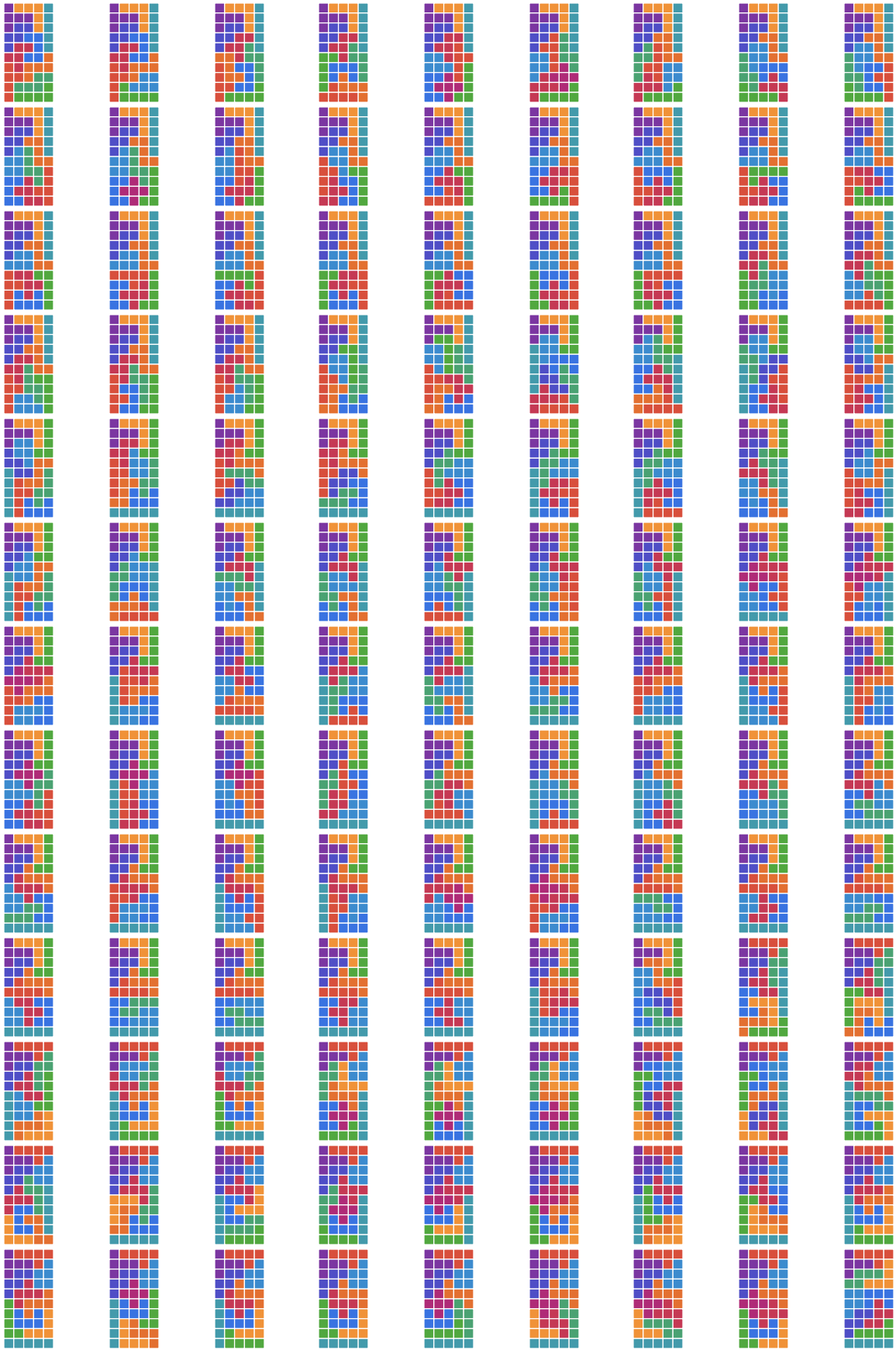


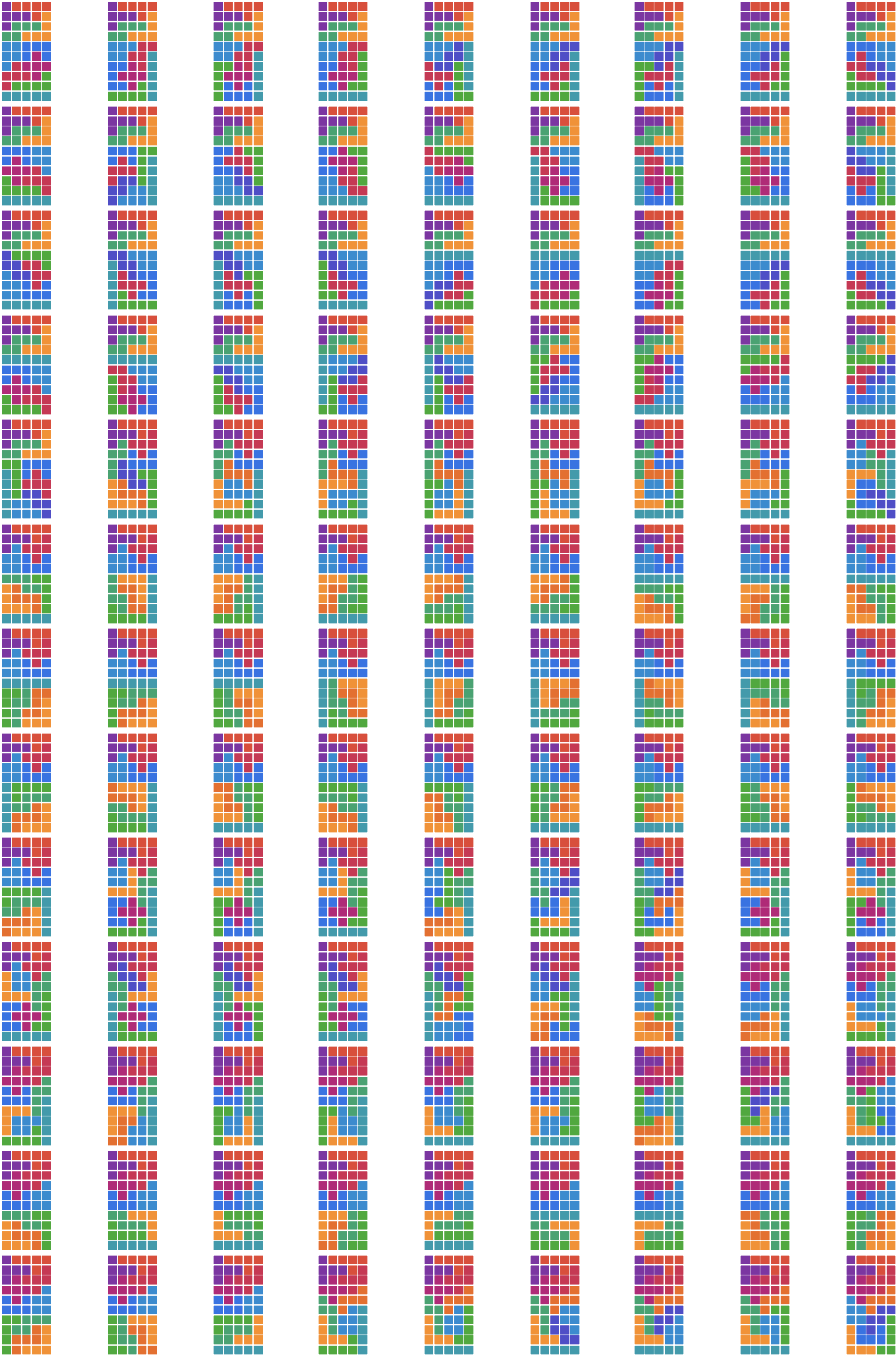


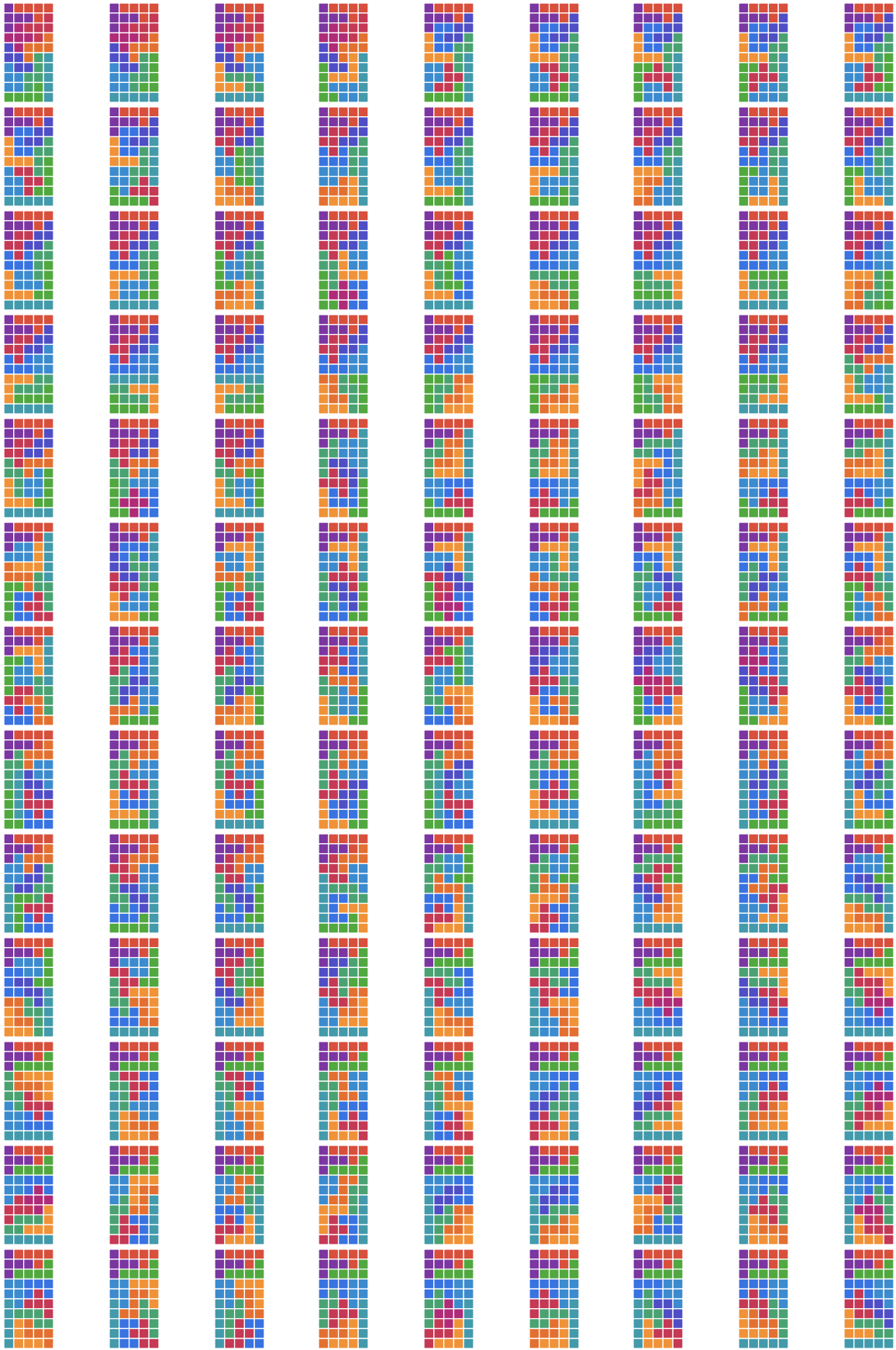


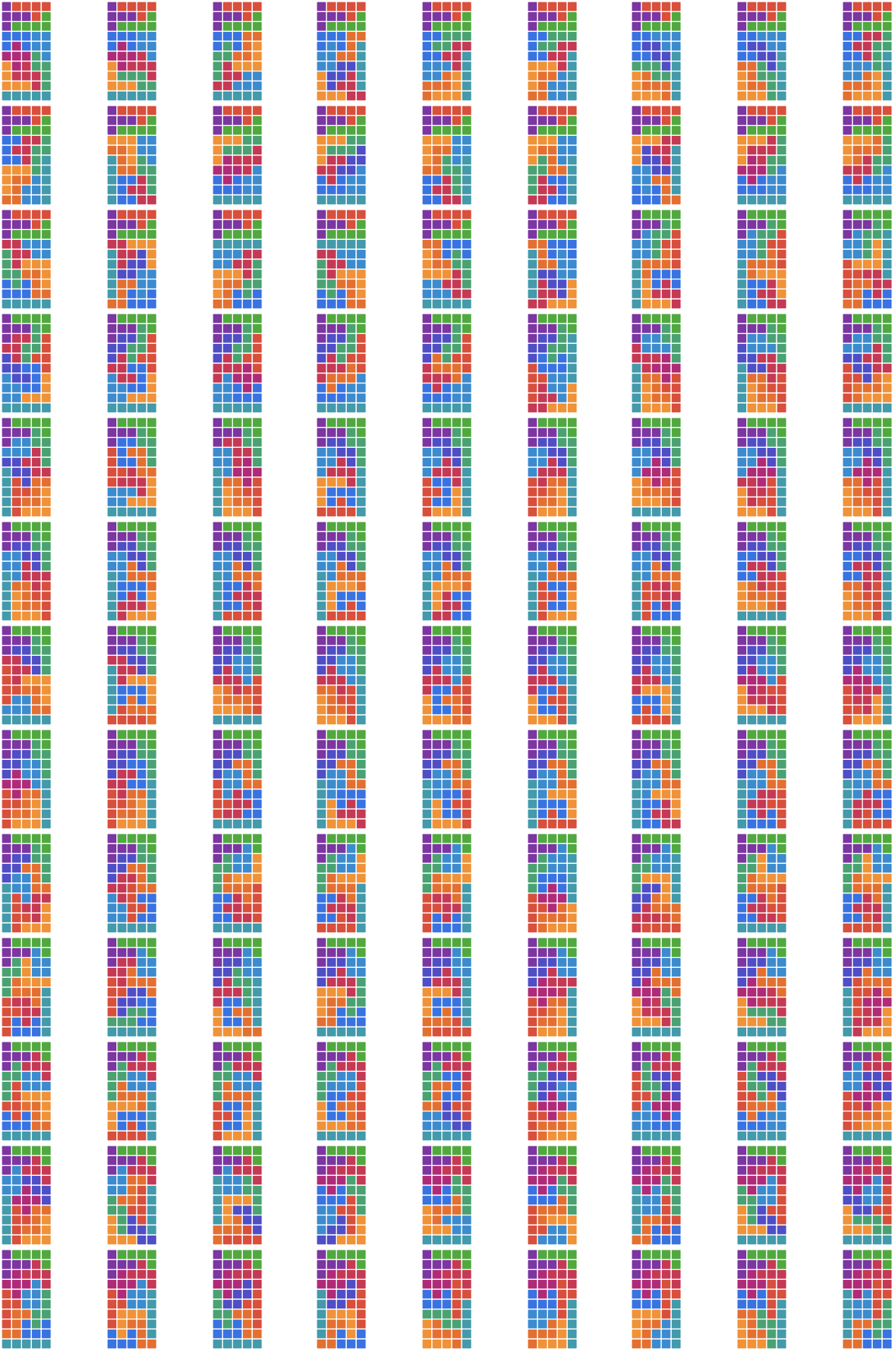


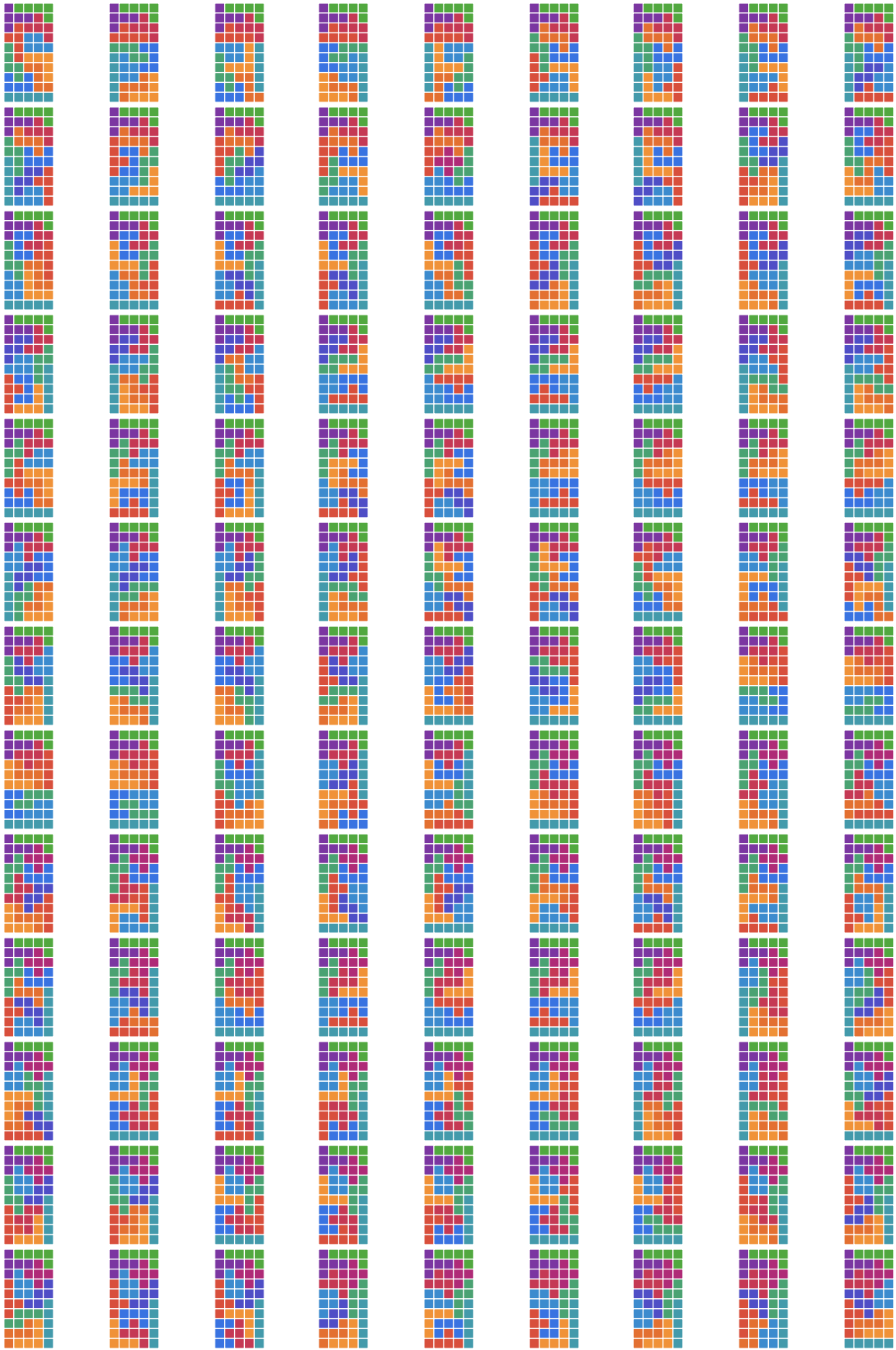


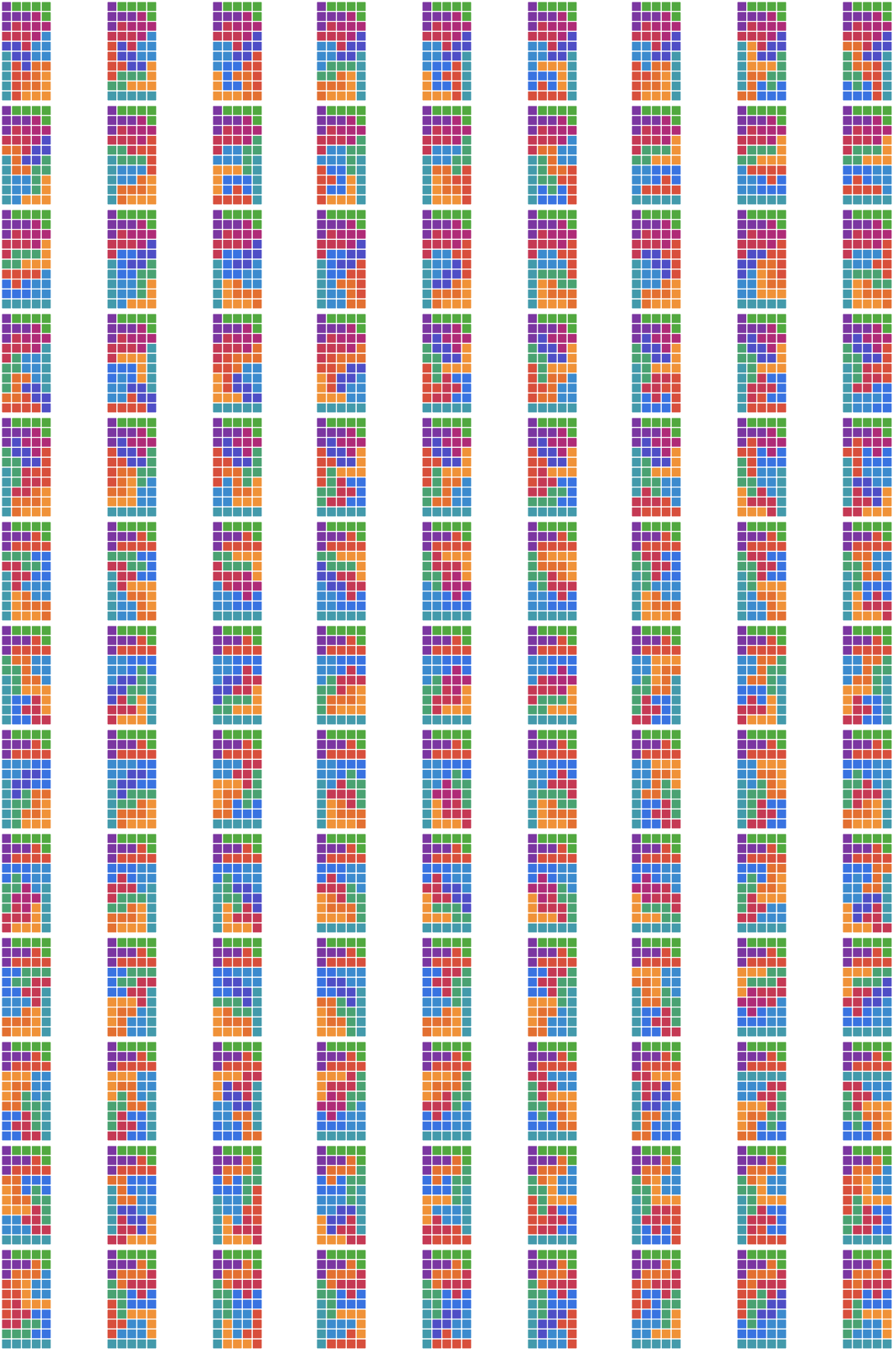


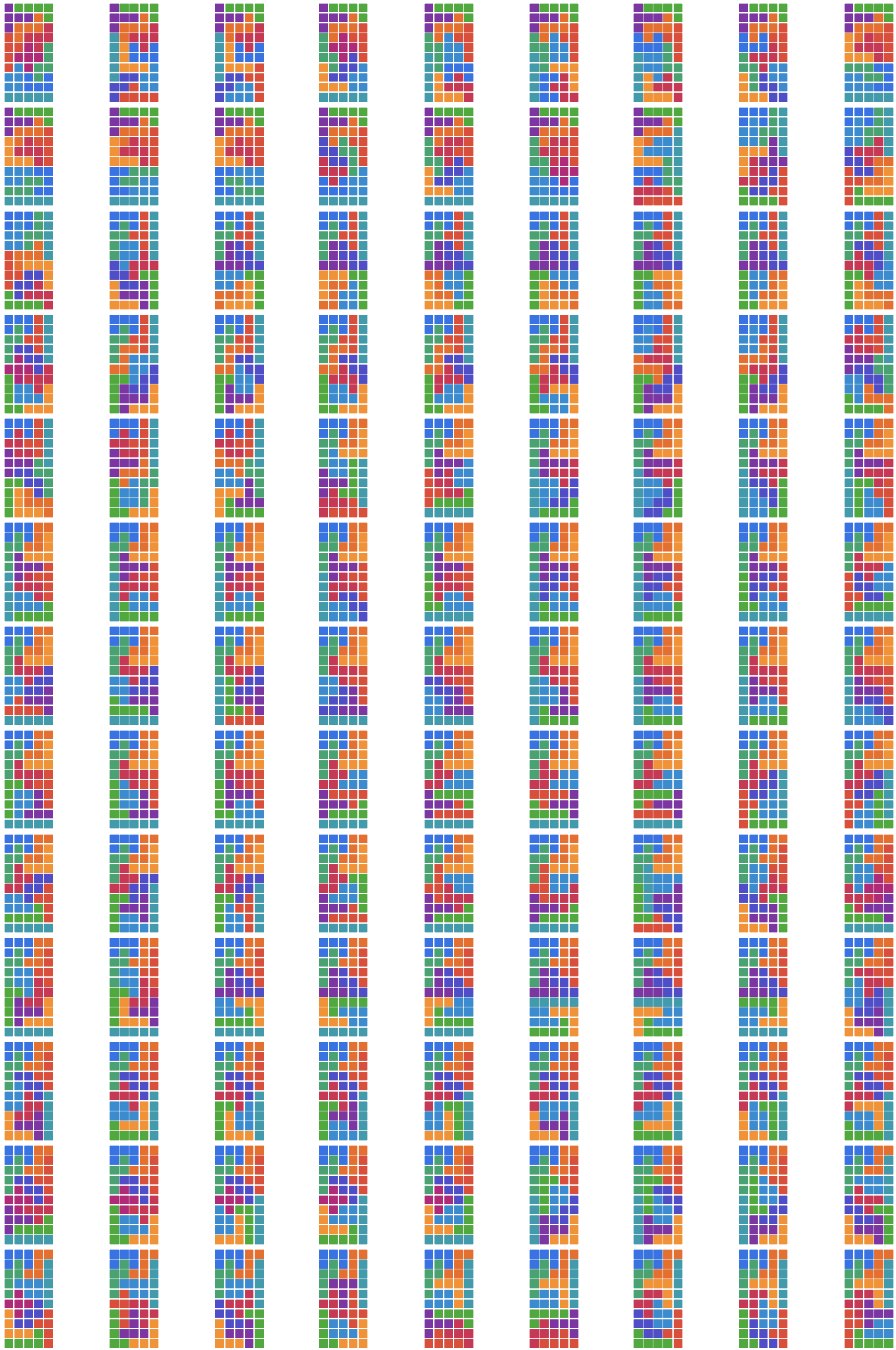


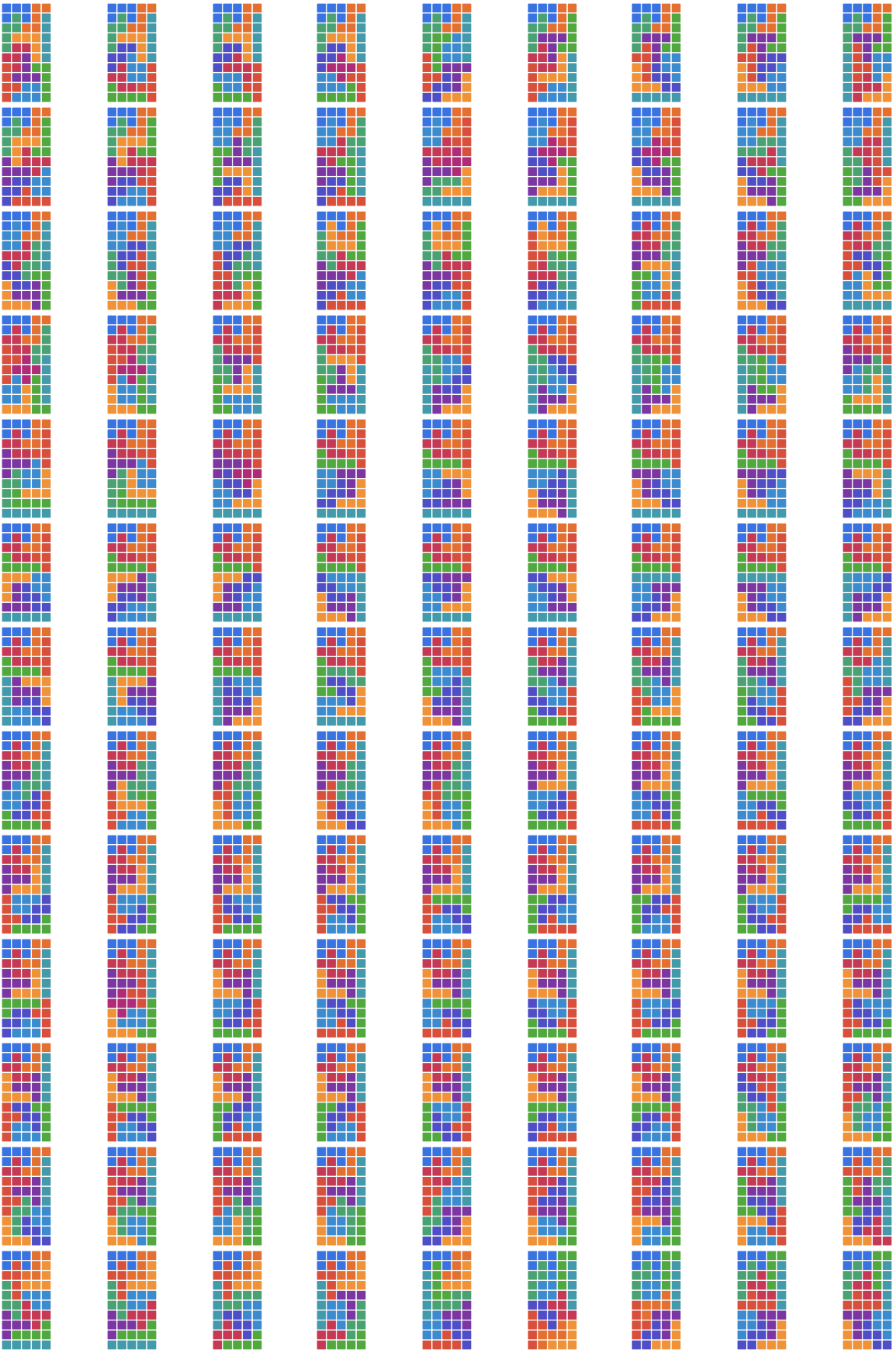


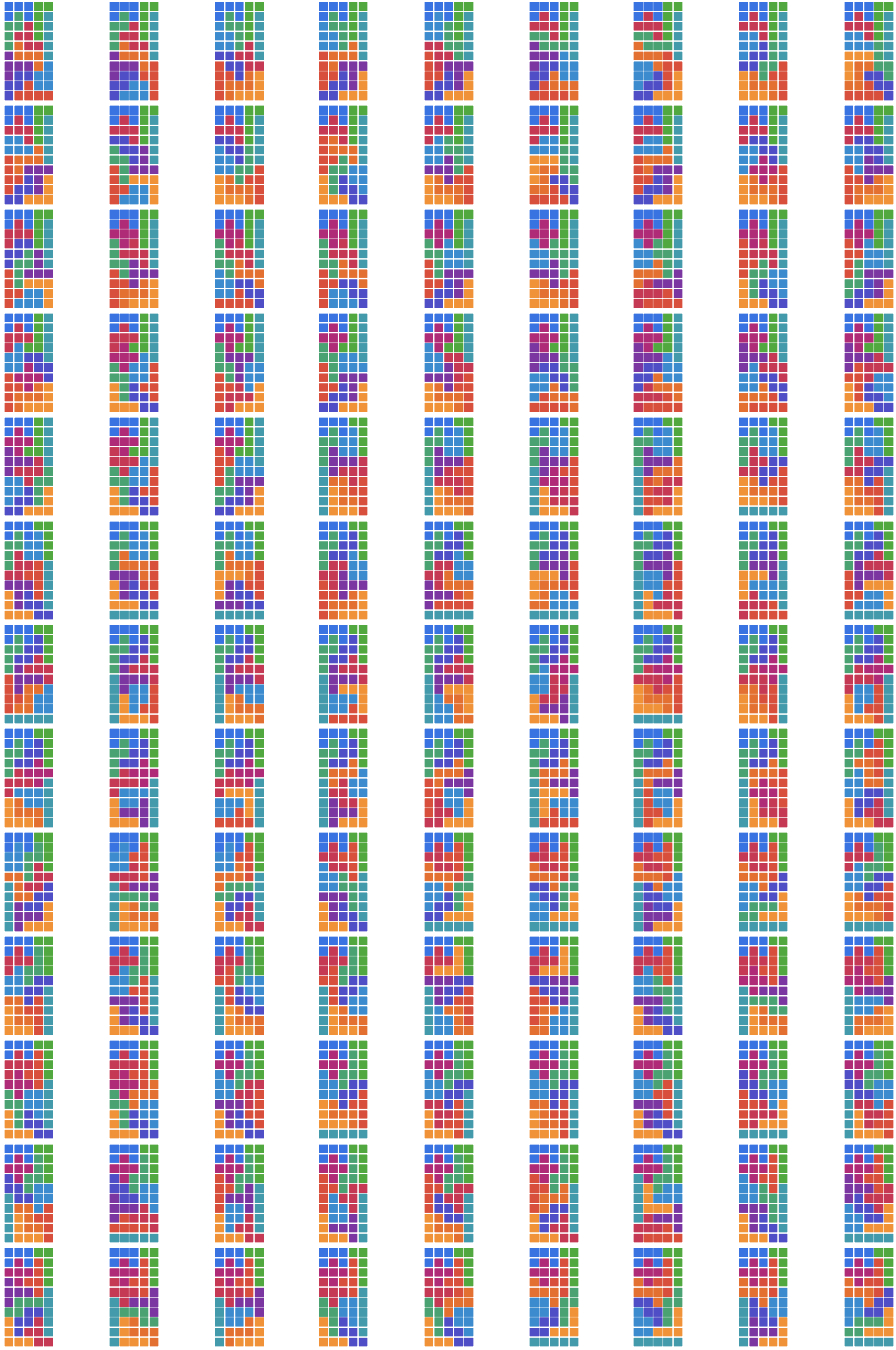


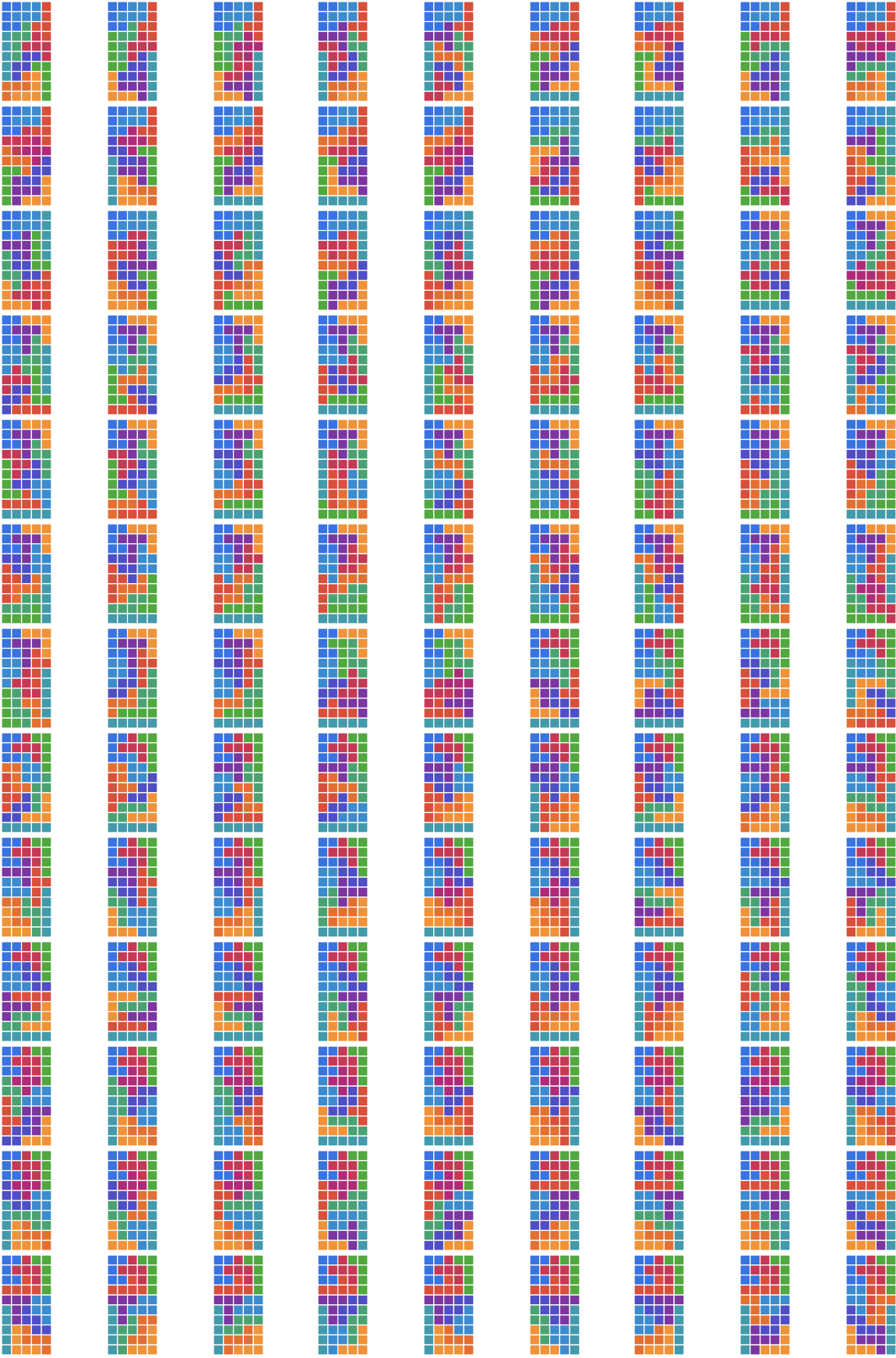


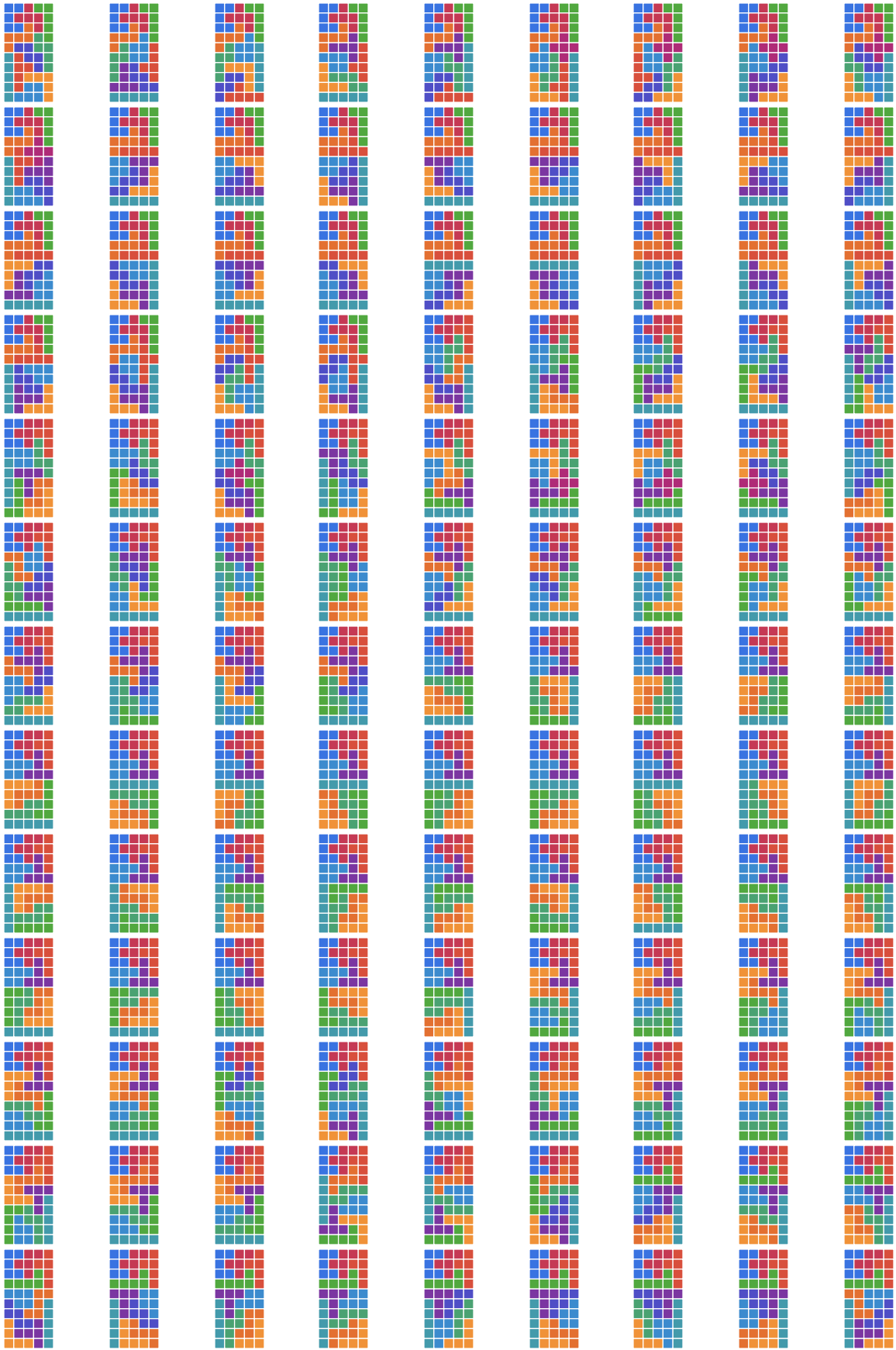


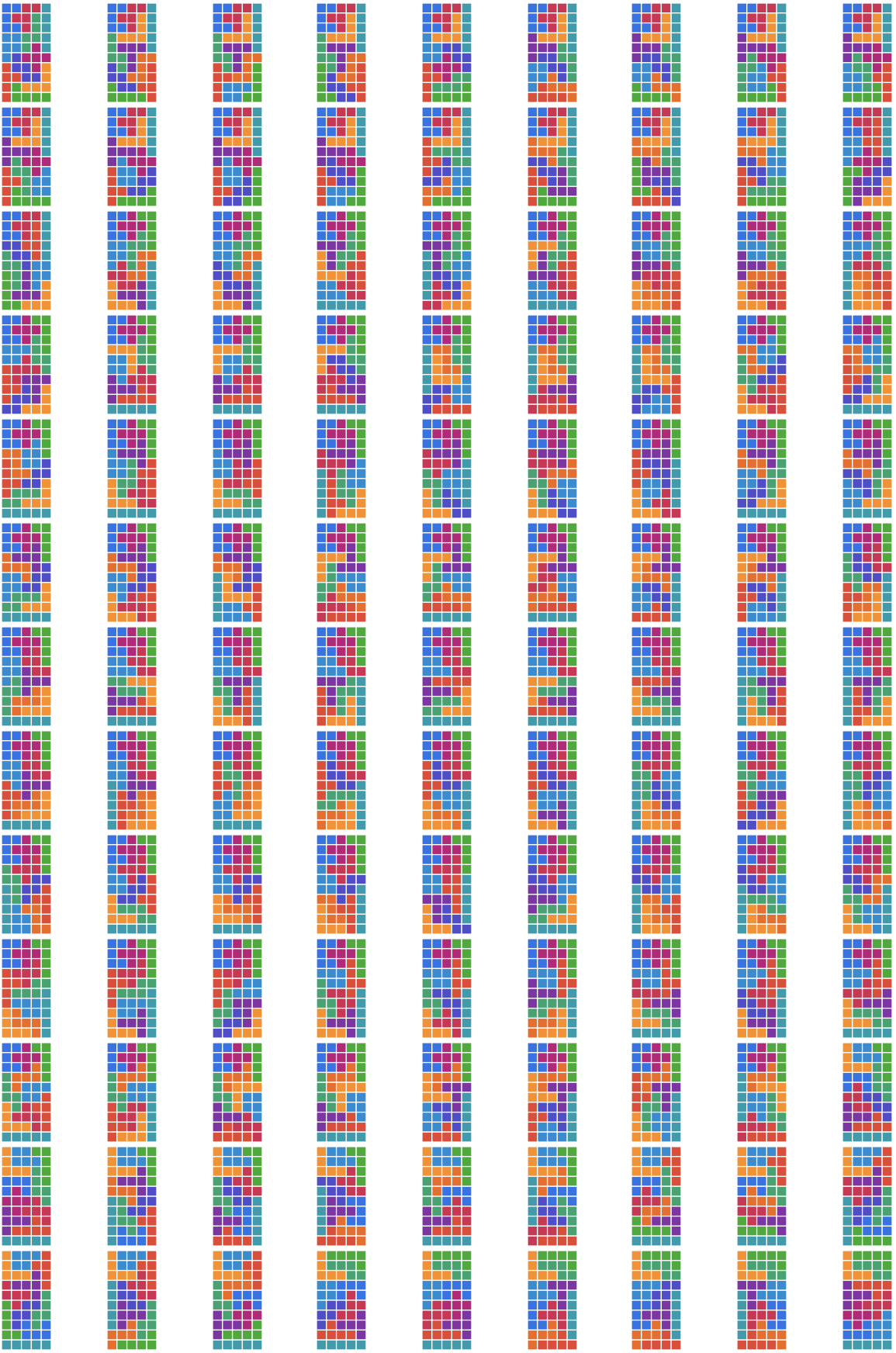


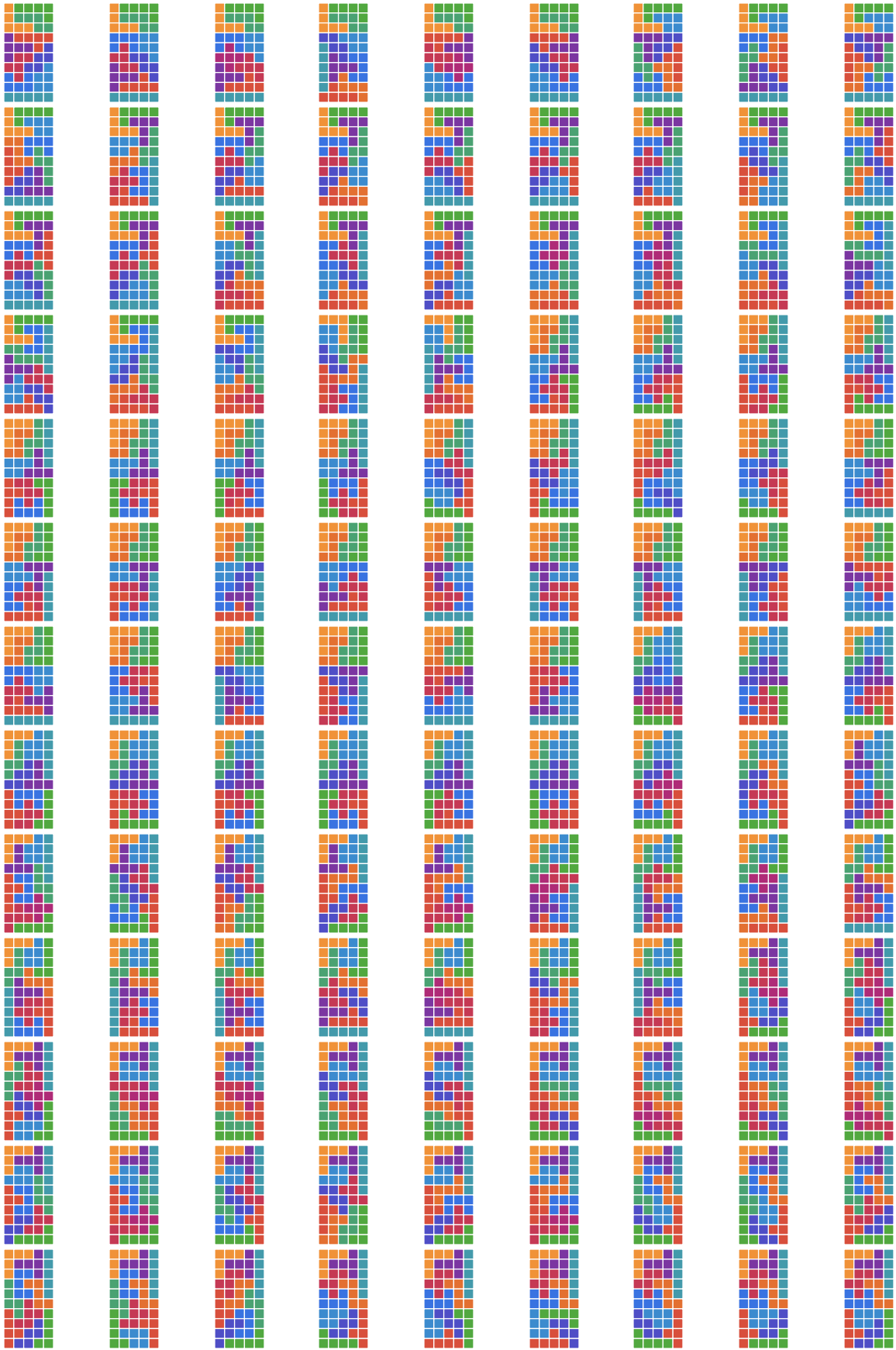


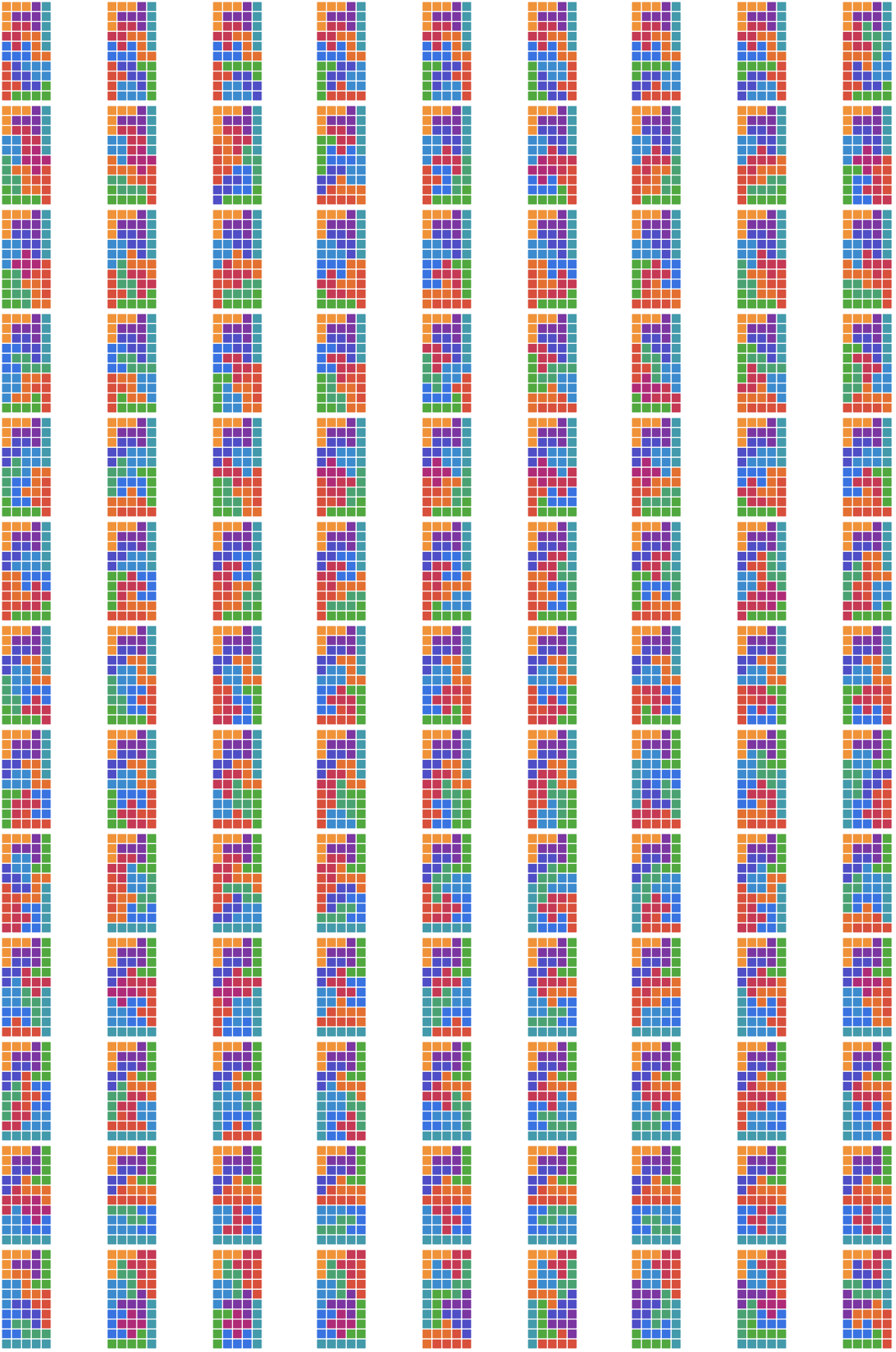


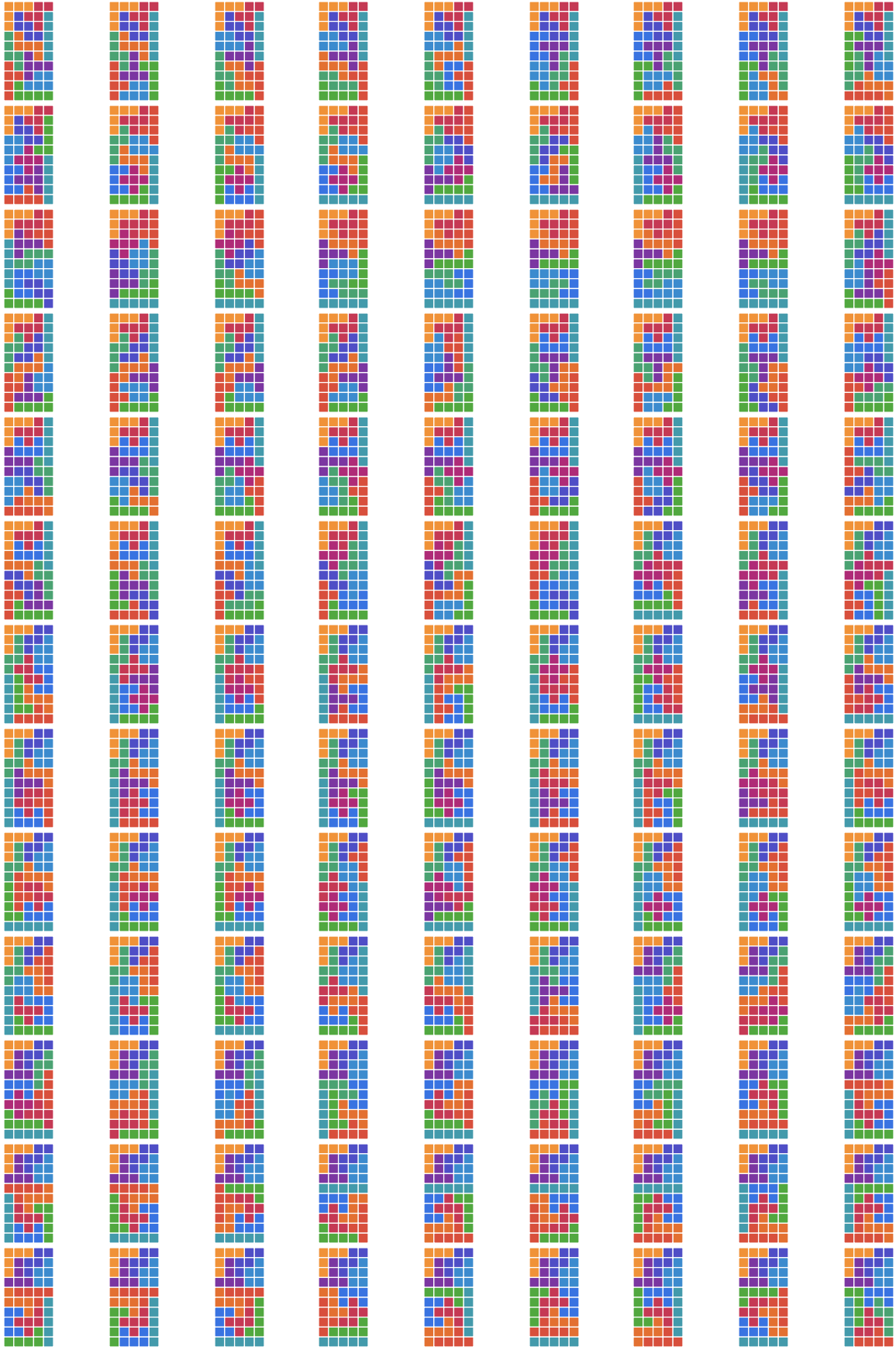


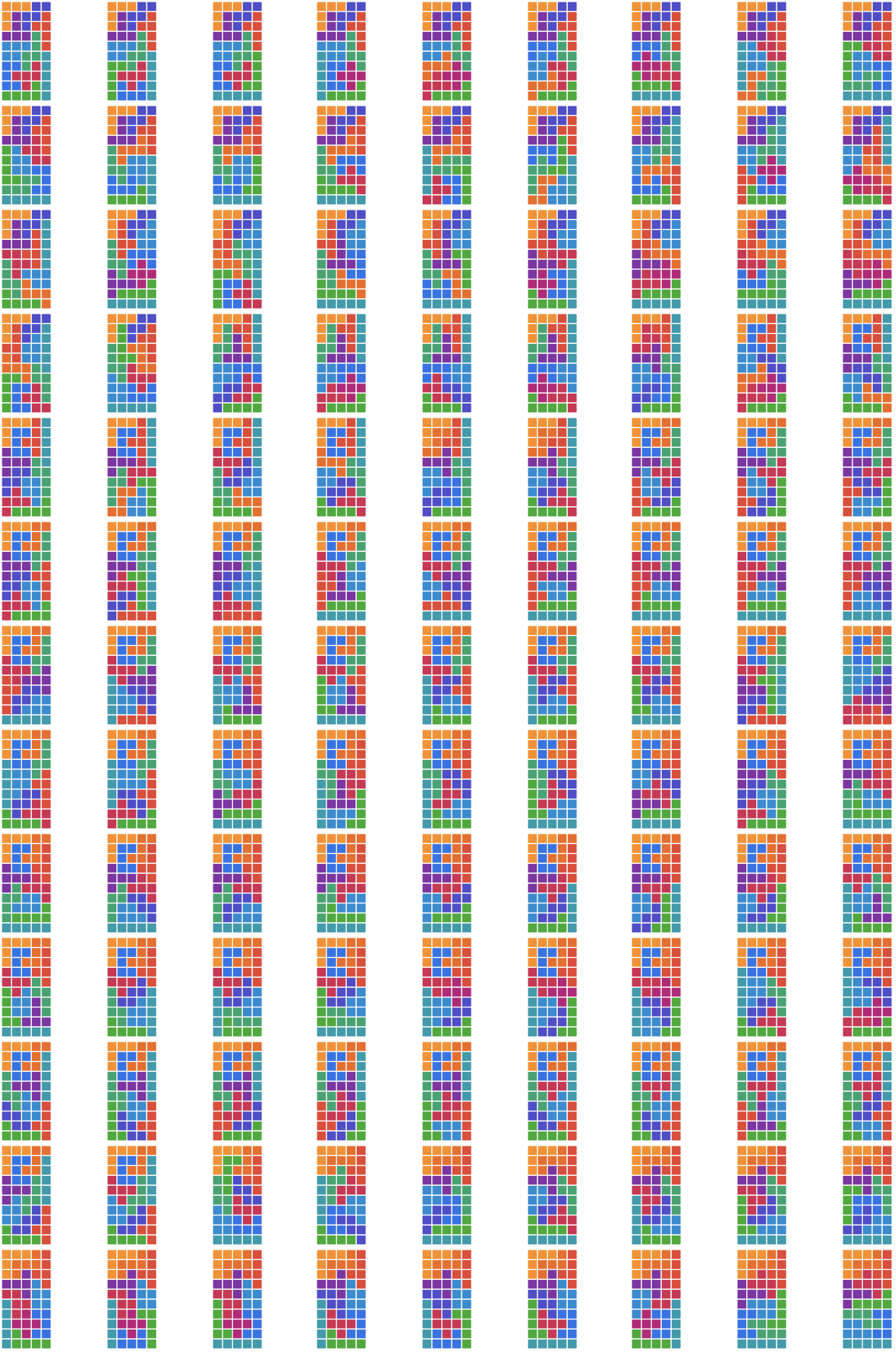


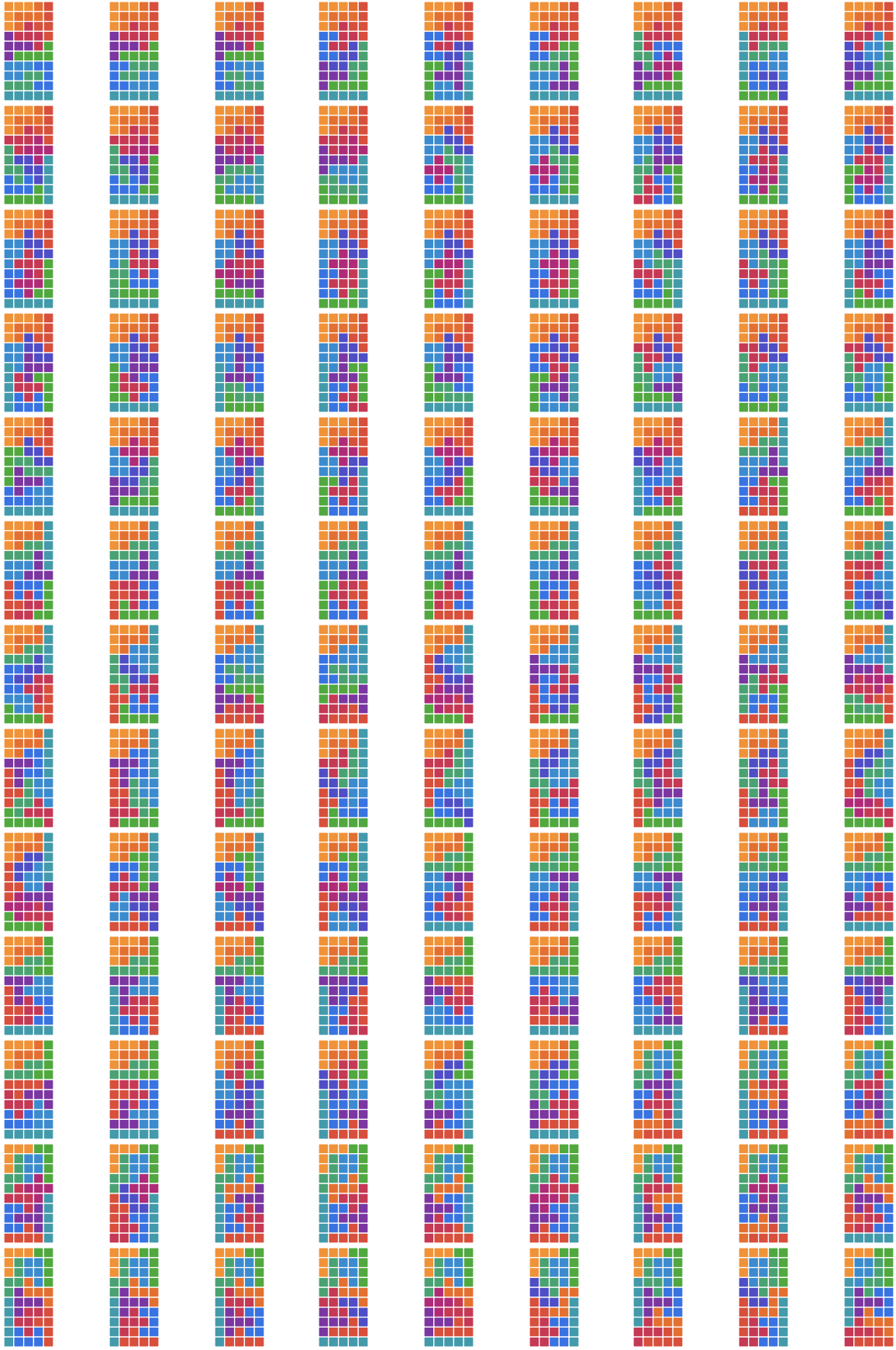


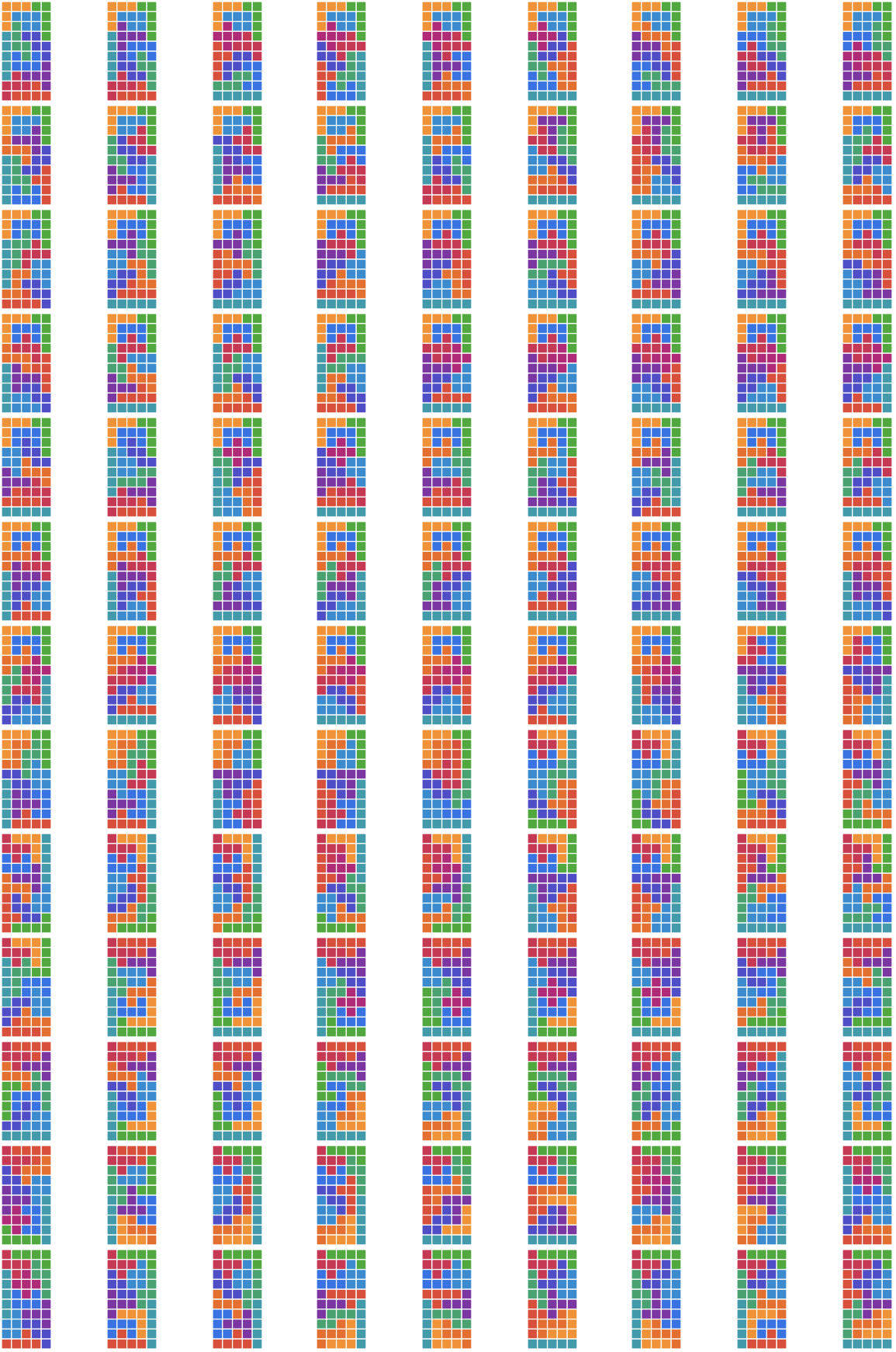


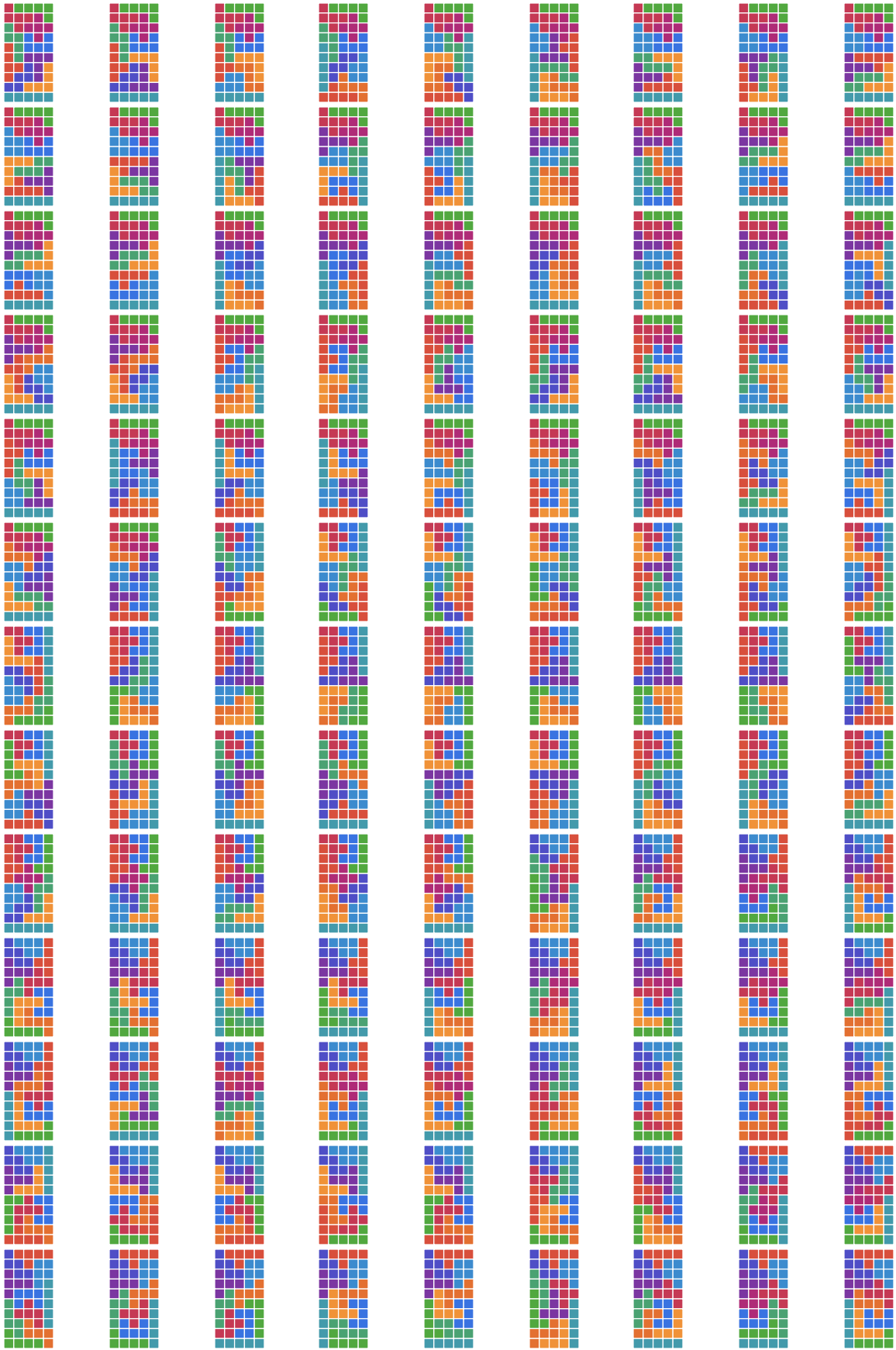


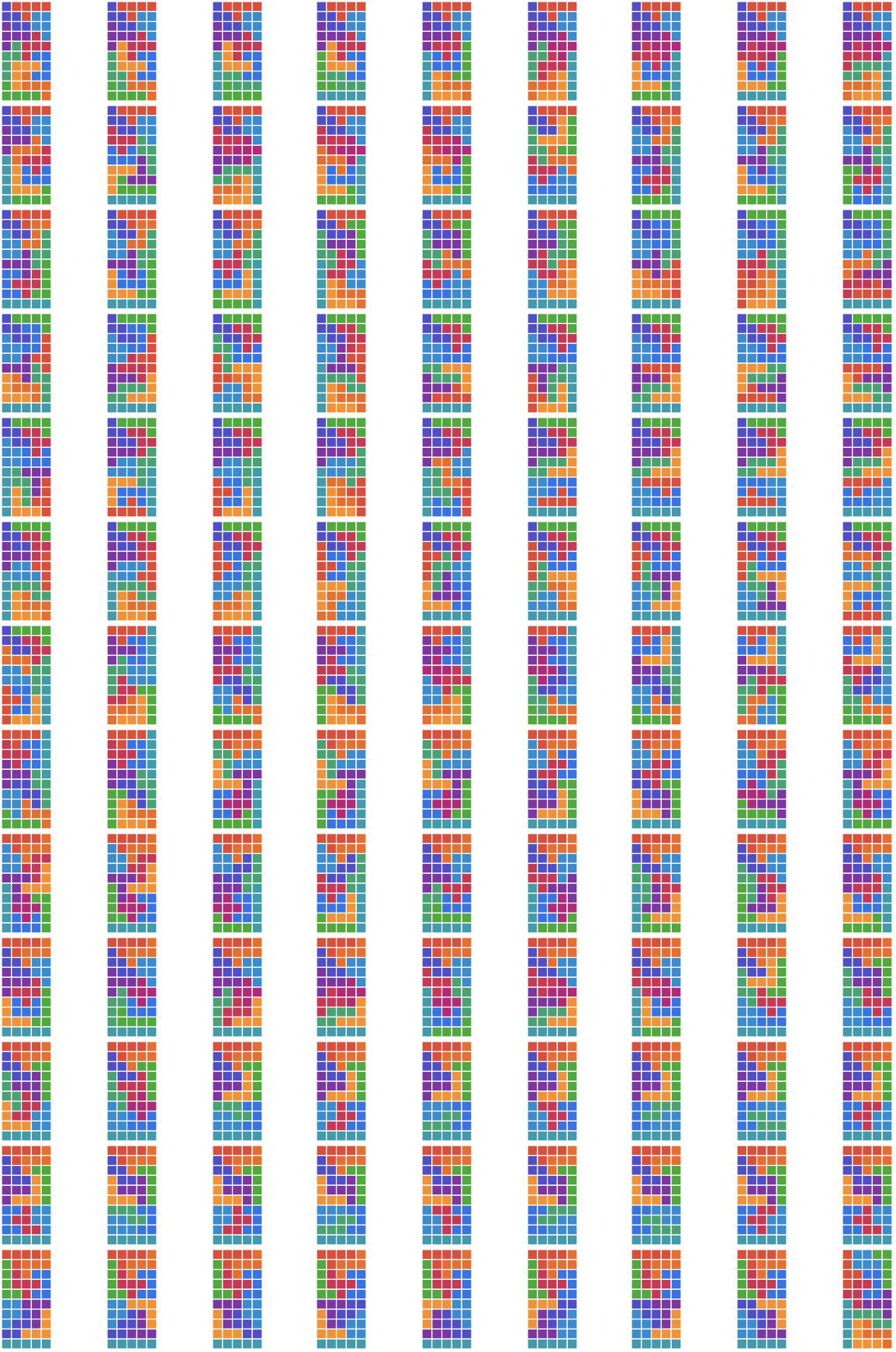


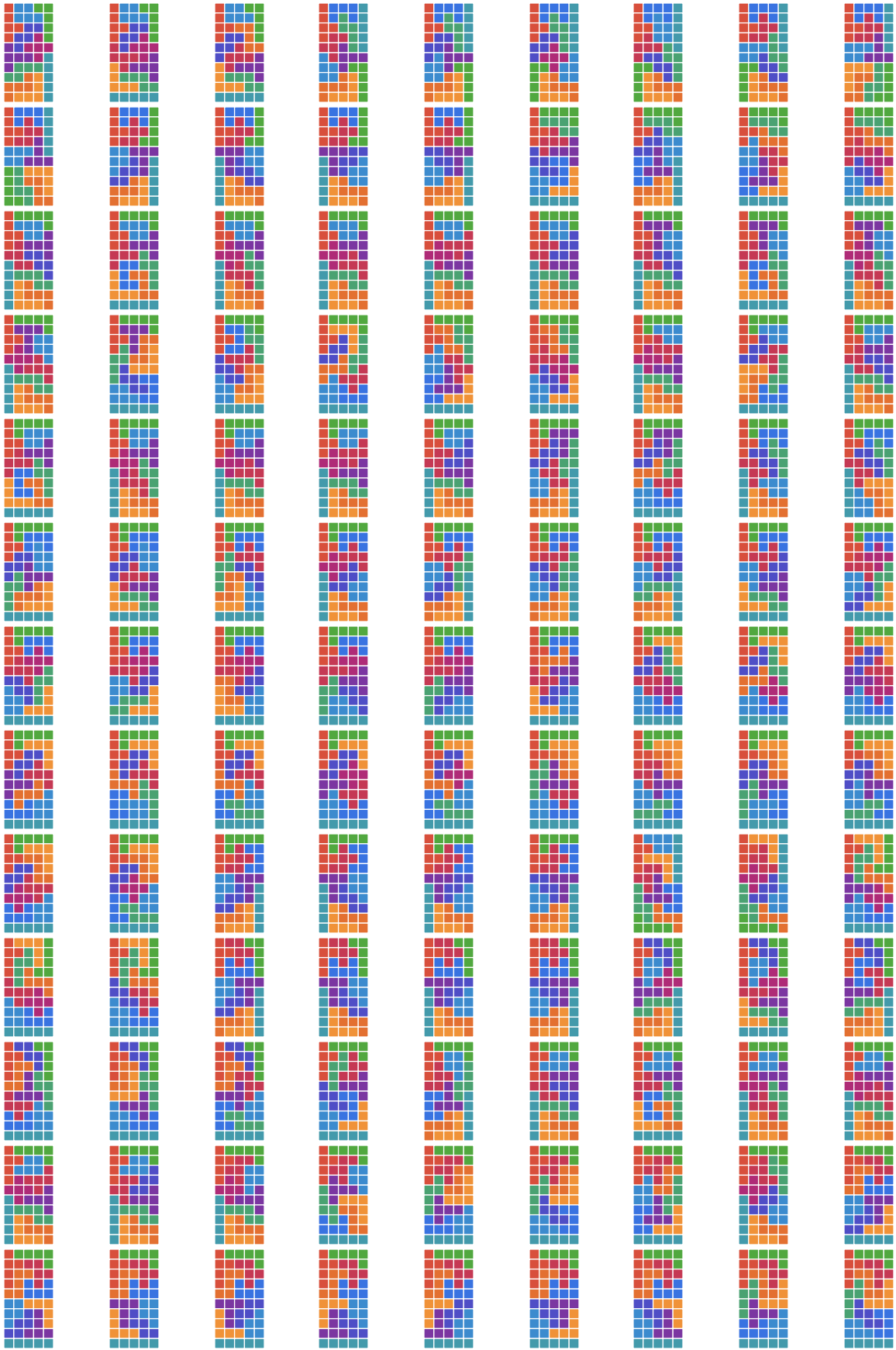


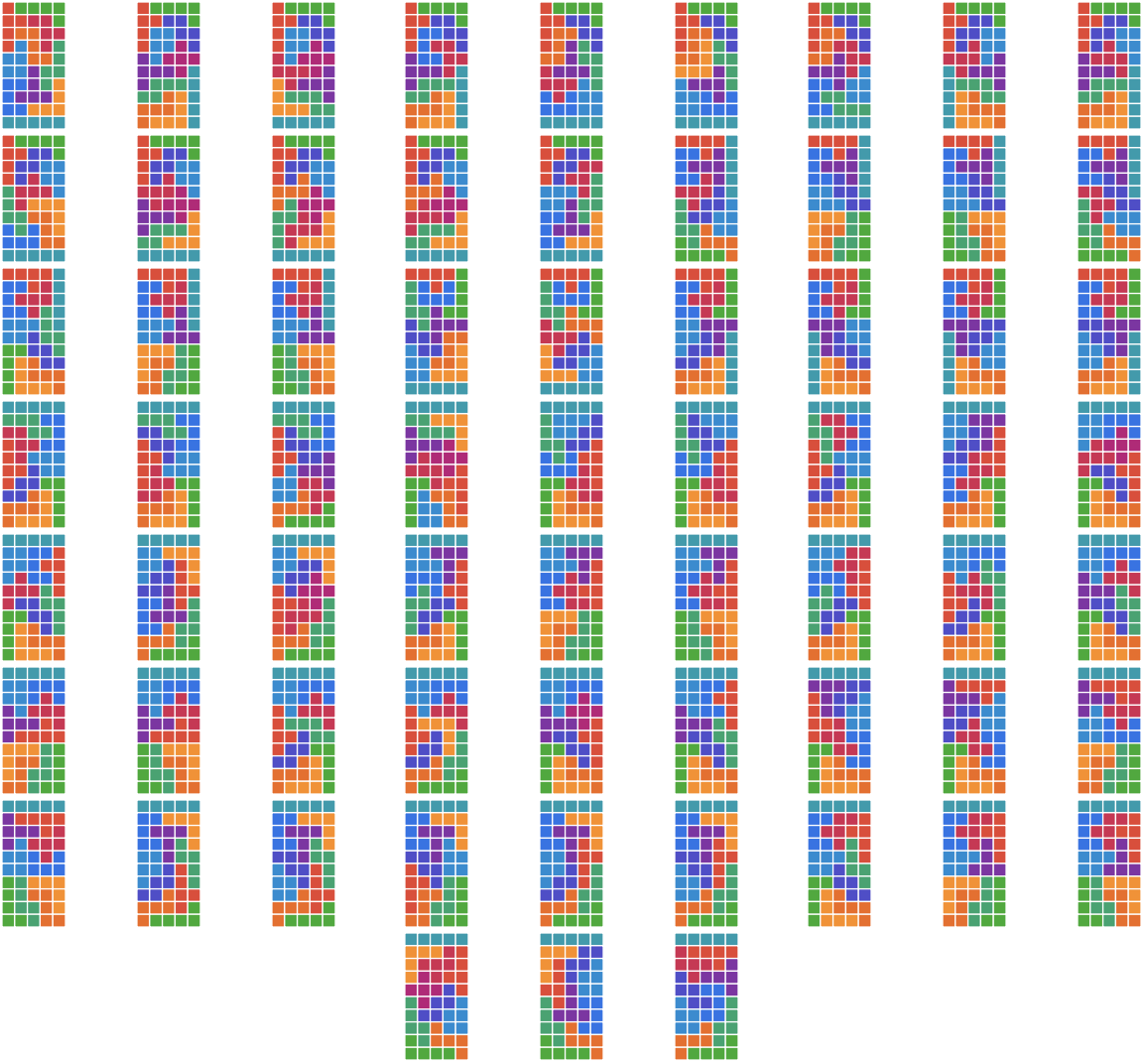


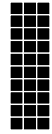






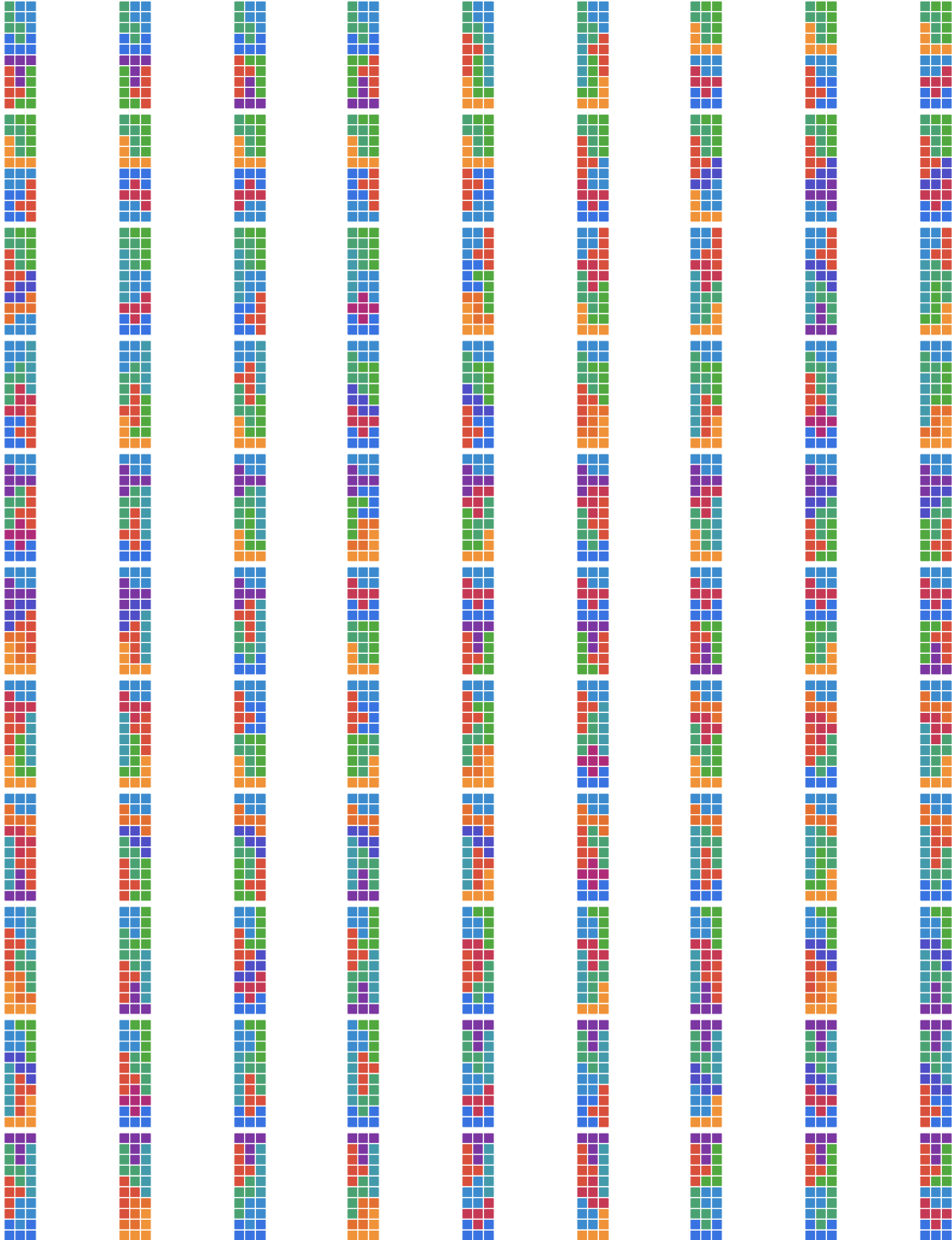






3x10

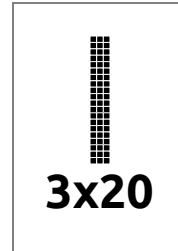
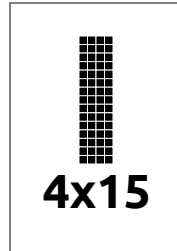
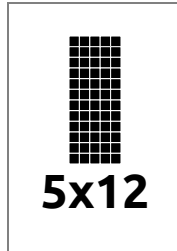
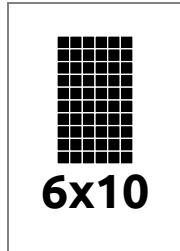
145 Solutions

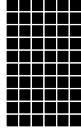




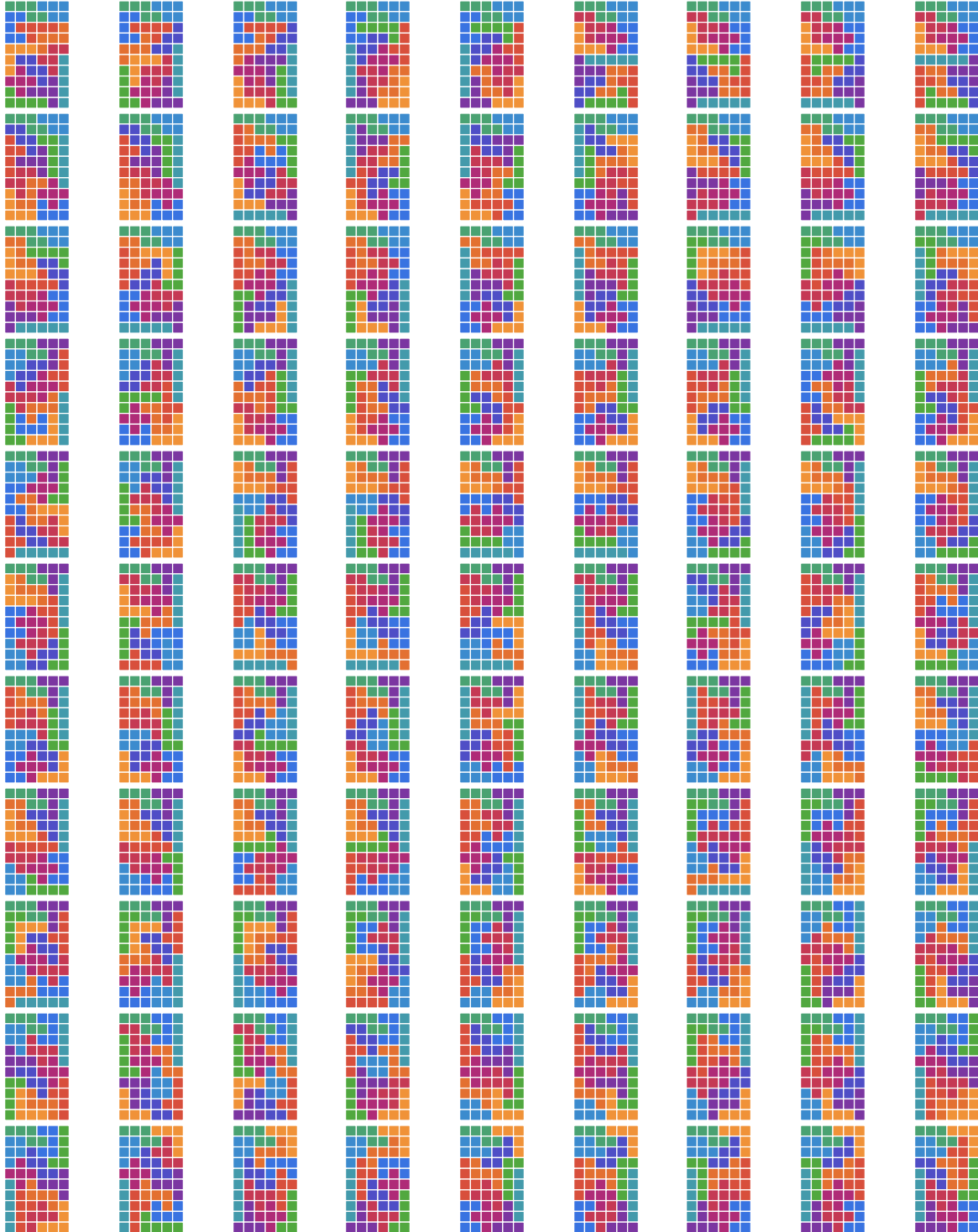
Rectangles

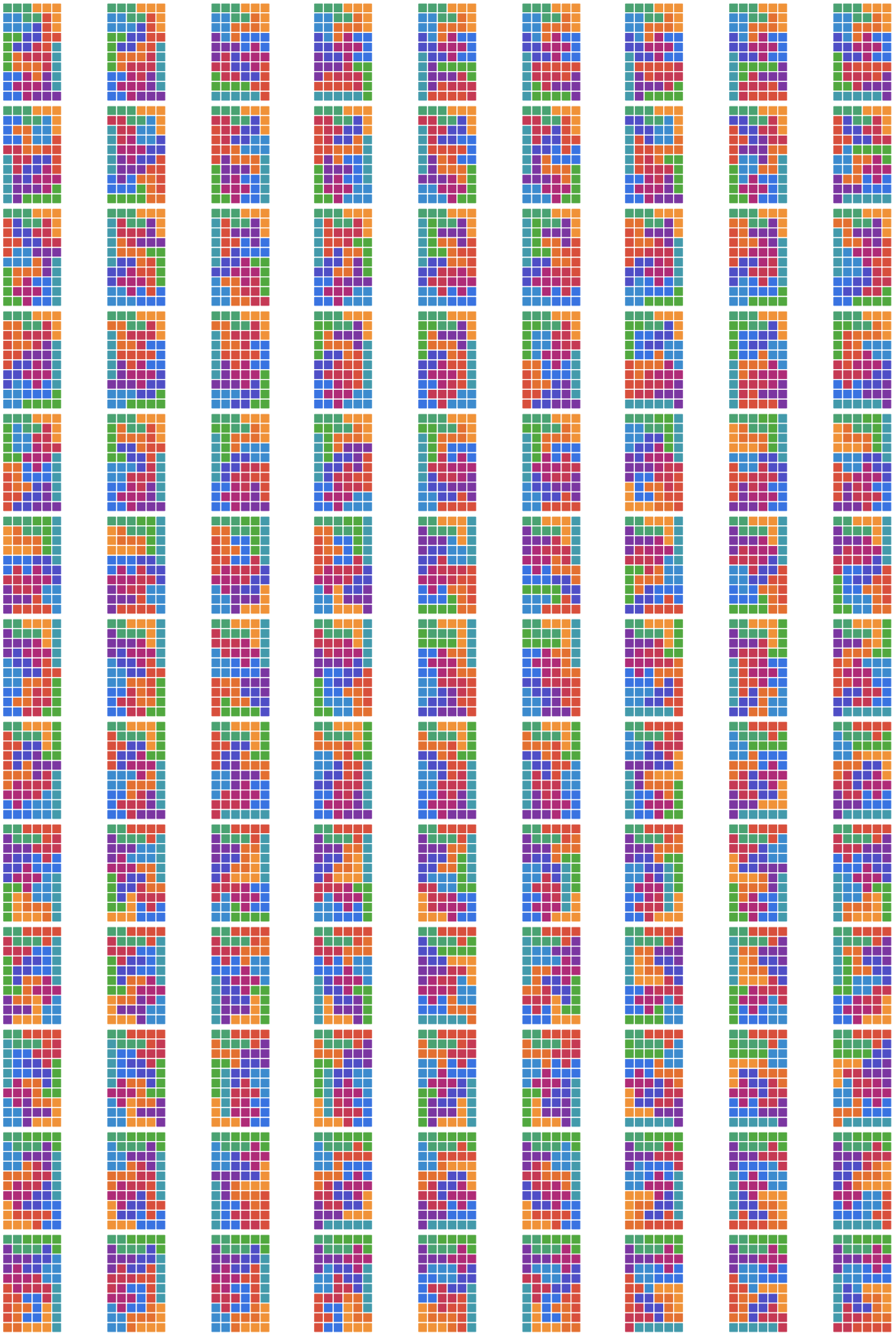
The basic "trivial" rectangles that can be created using all 12 Pentominoes.

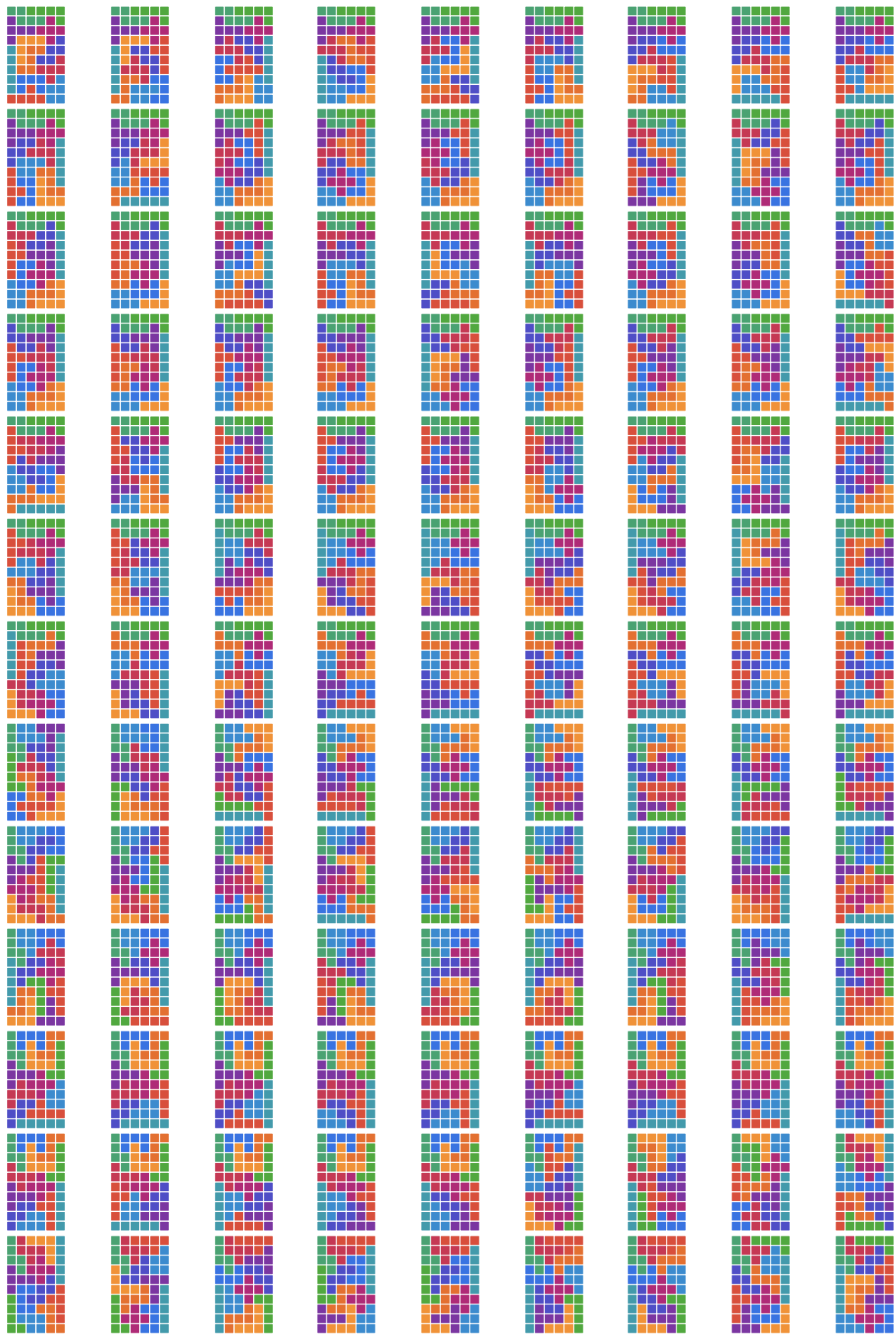


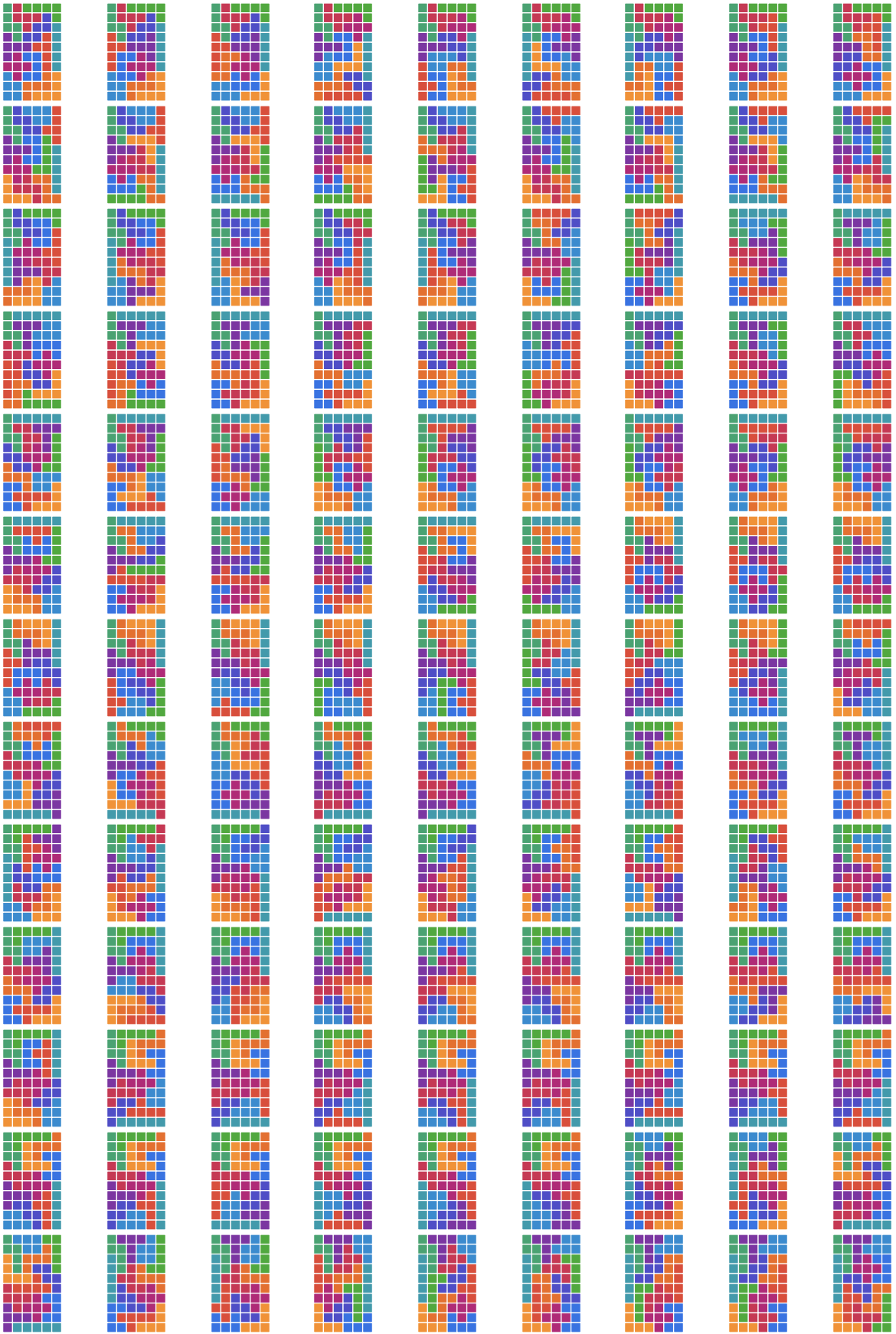


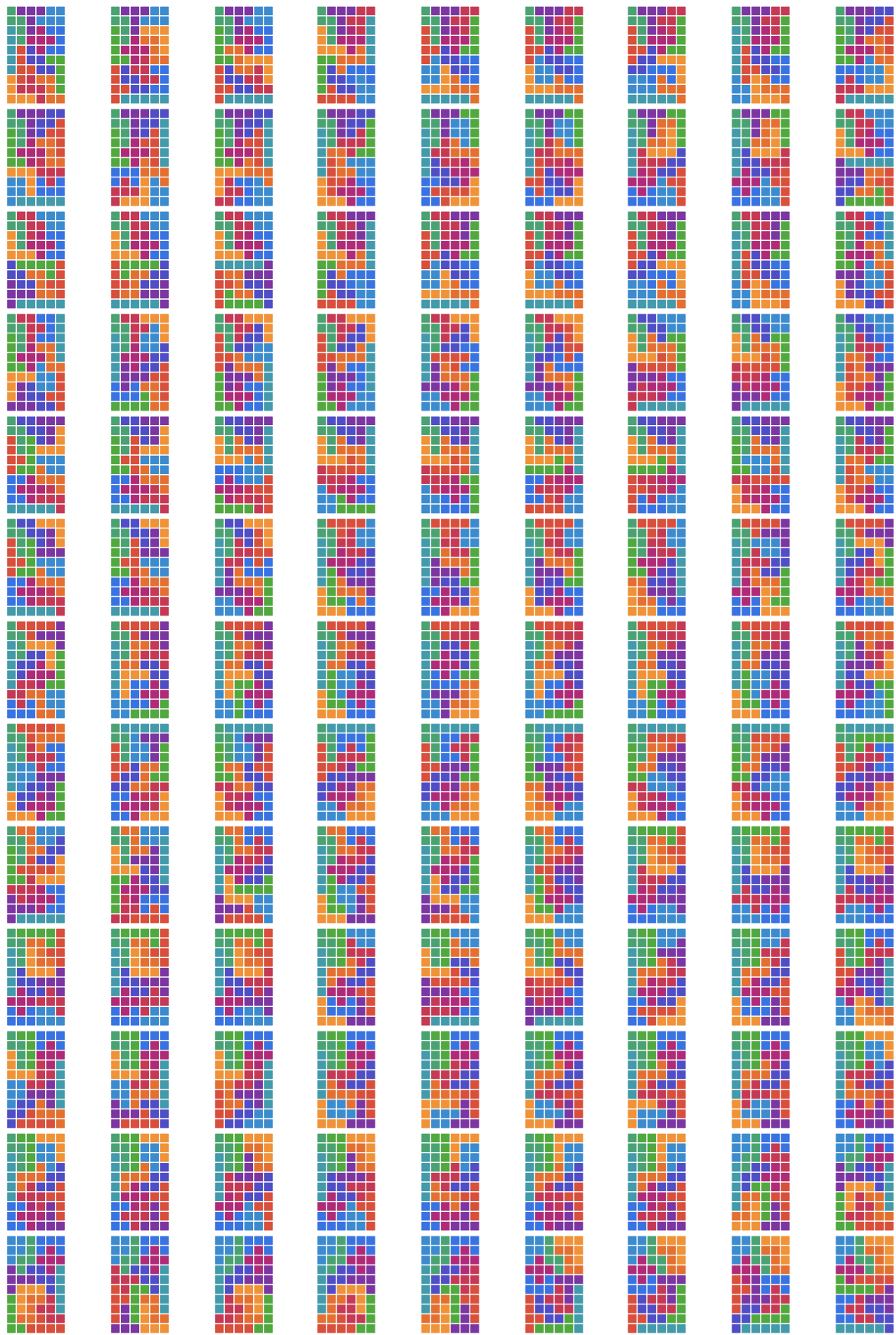
6x10
2,339
Solutions

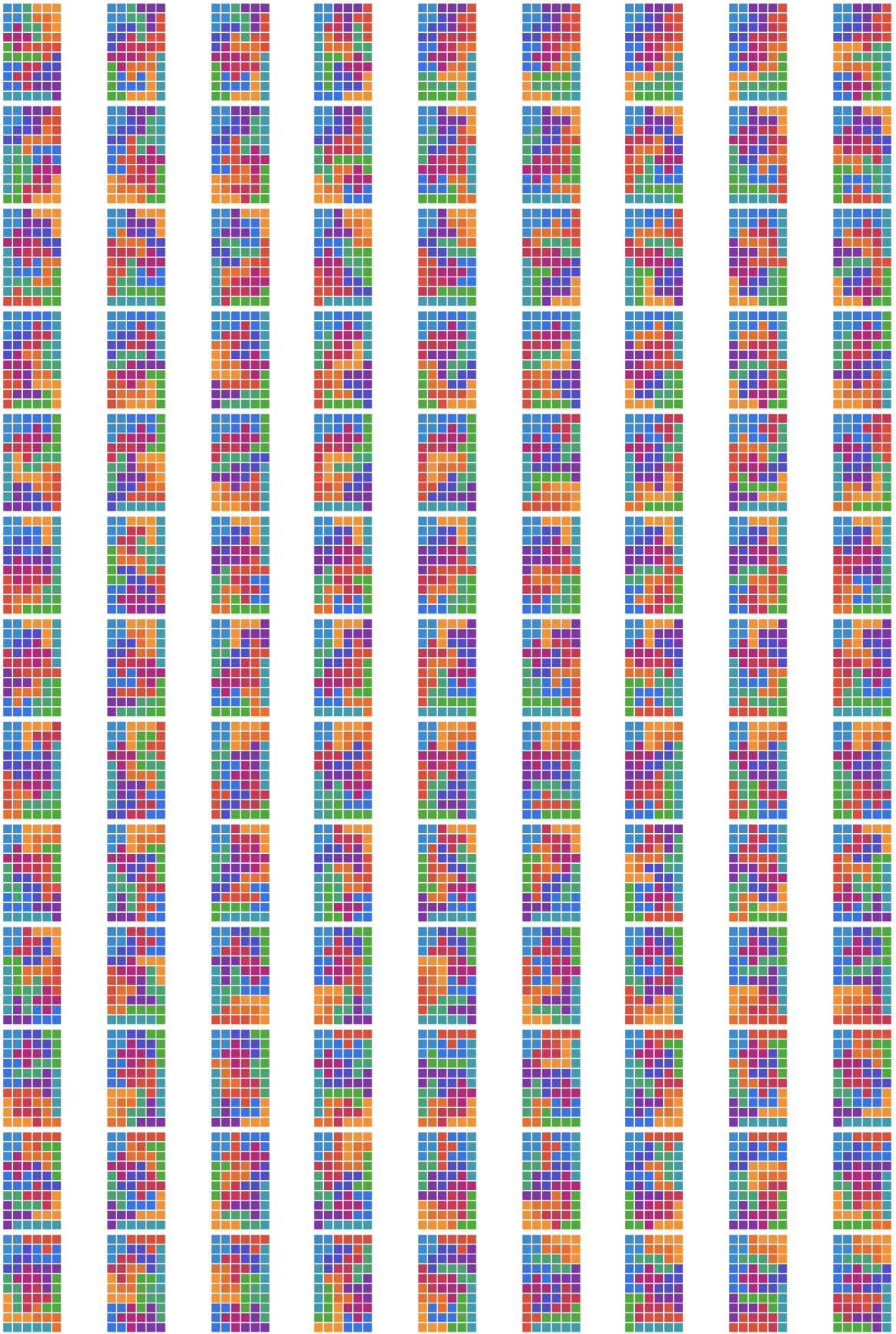


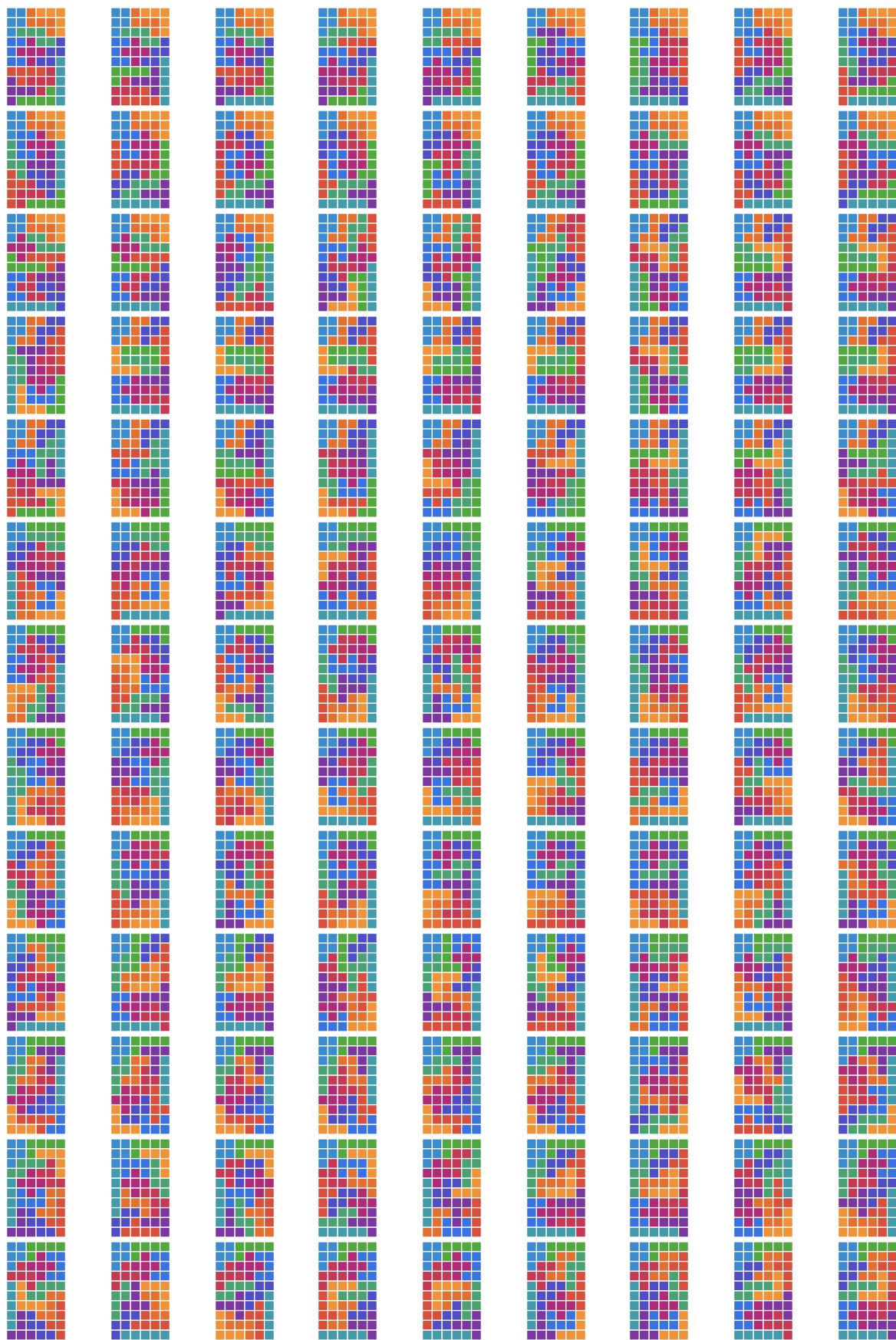


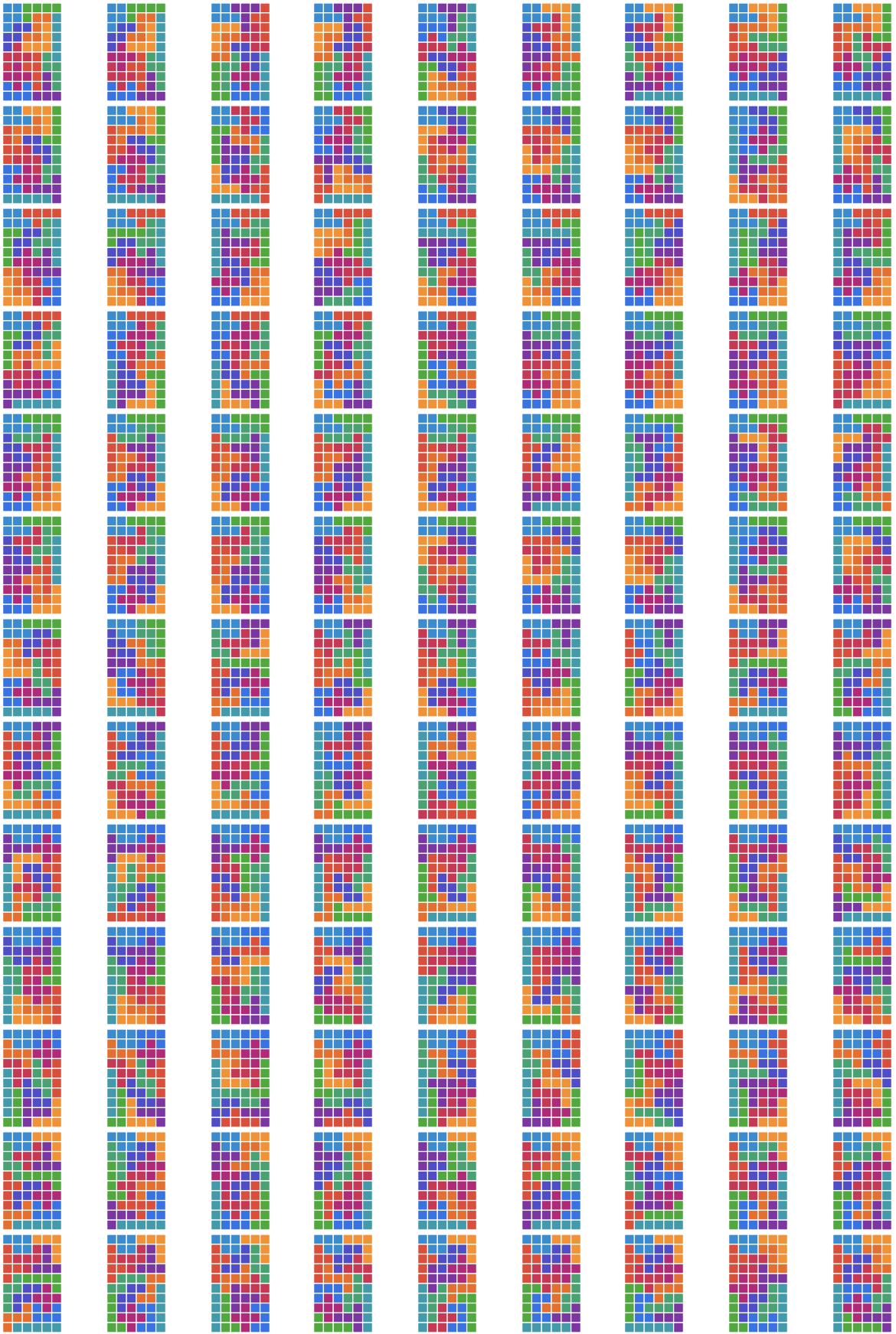


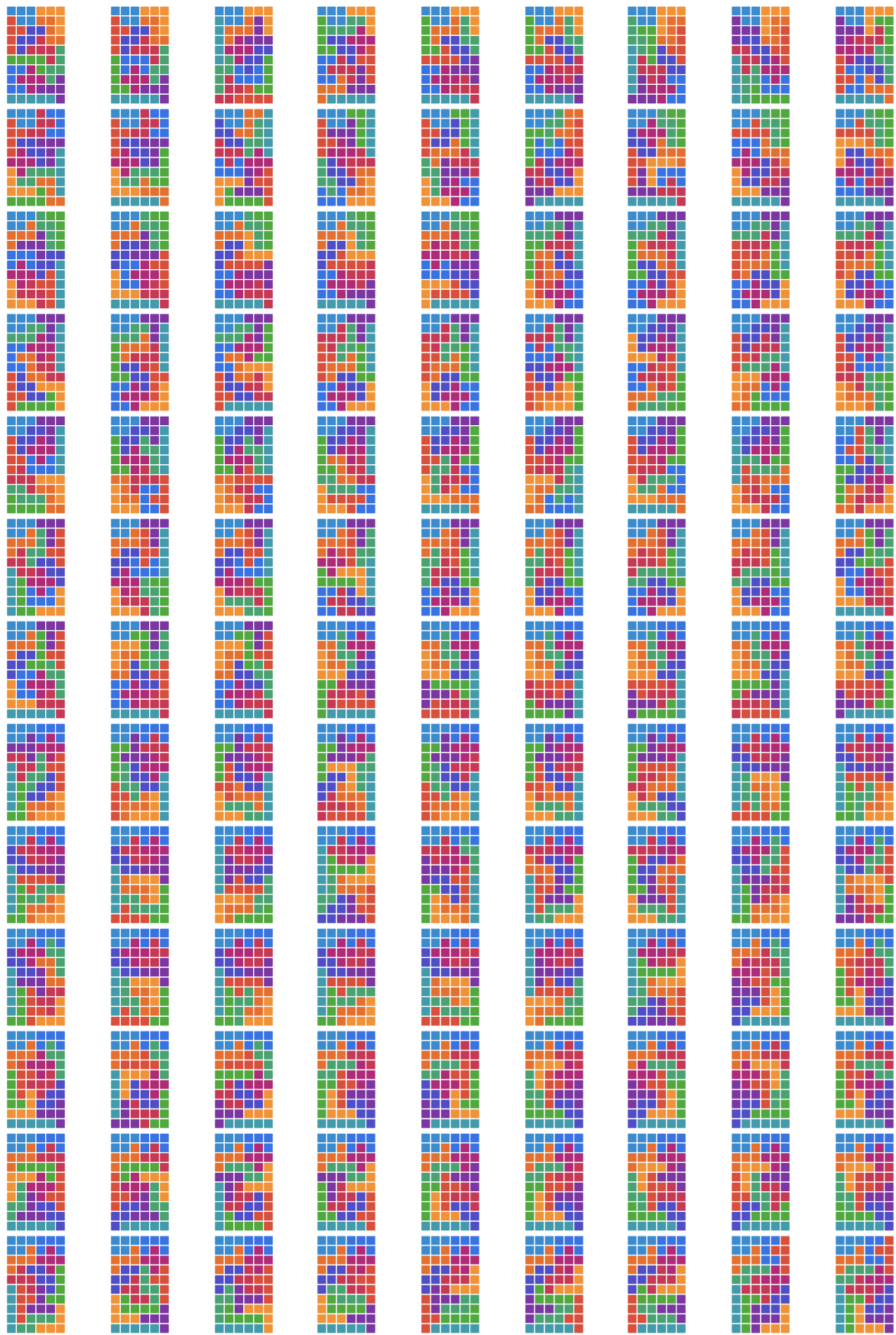


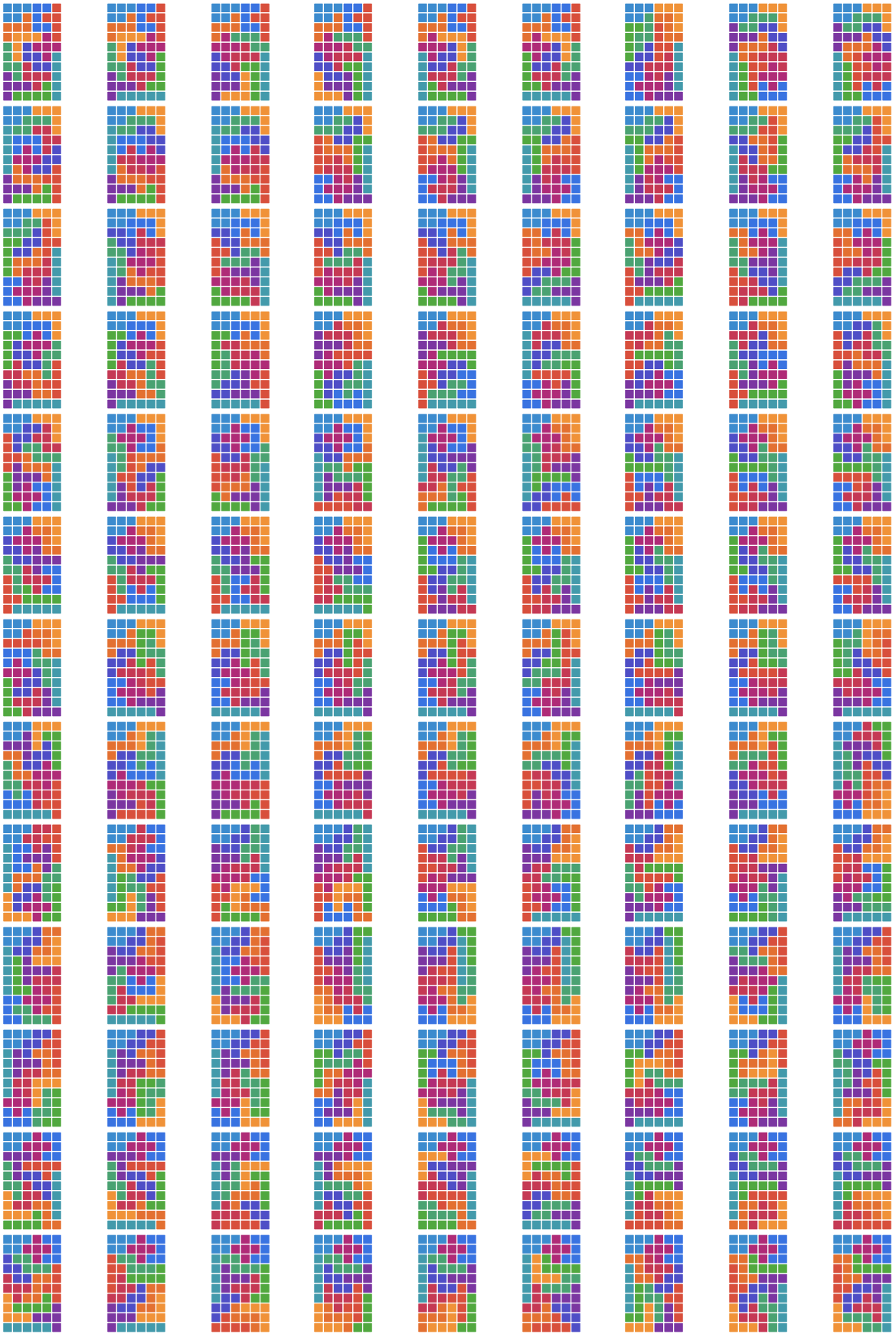


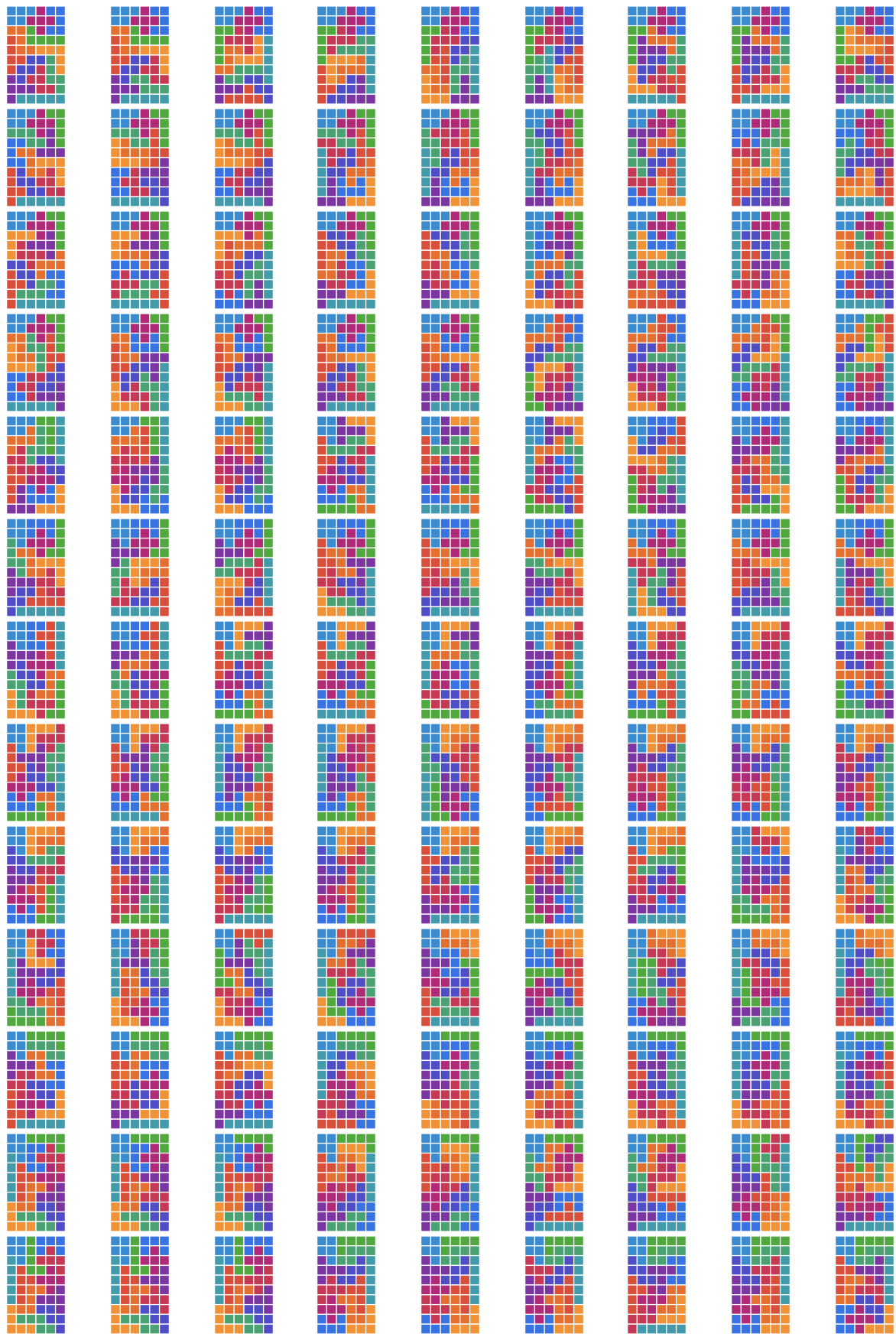


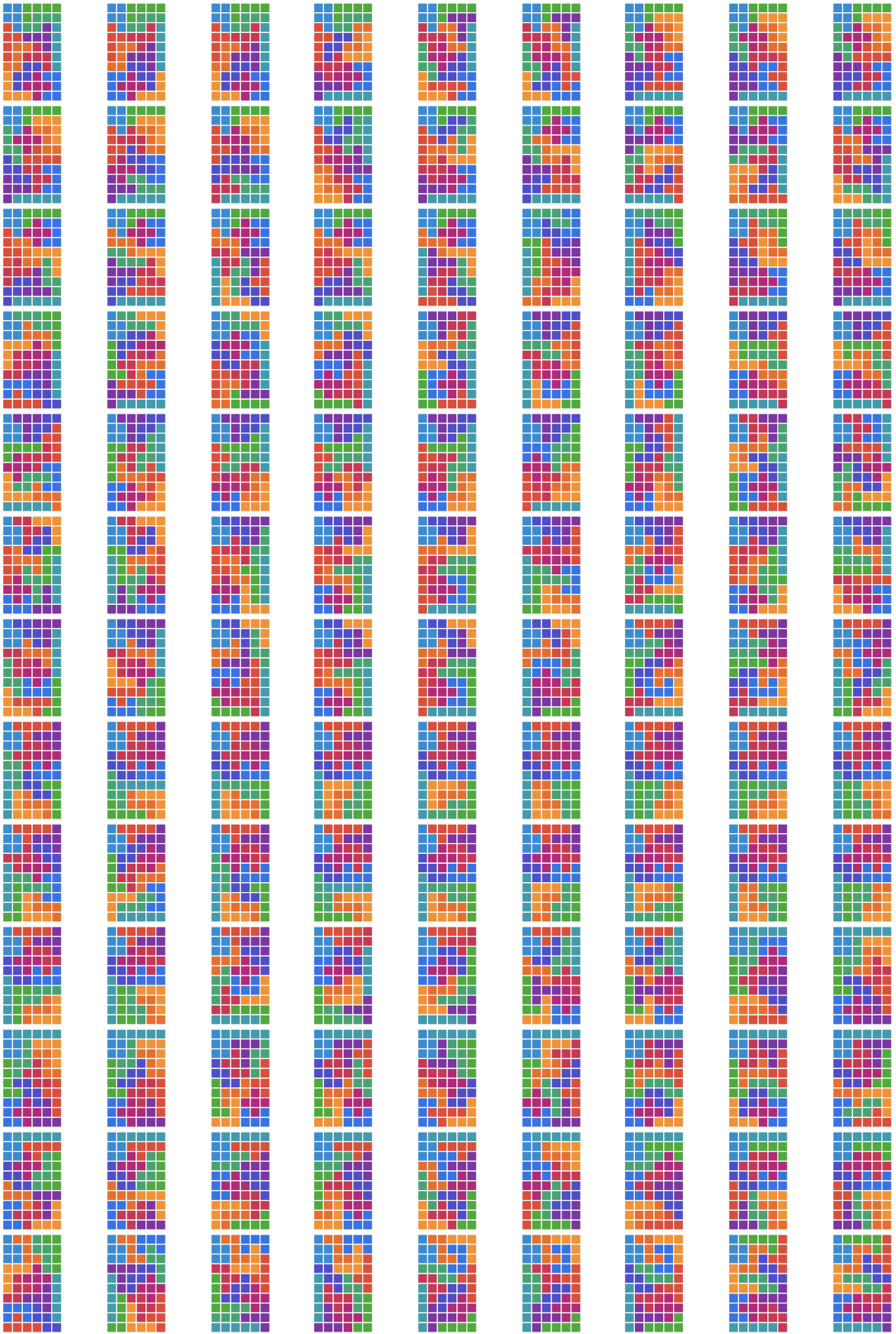


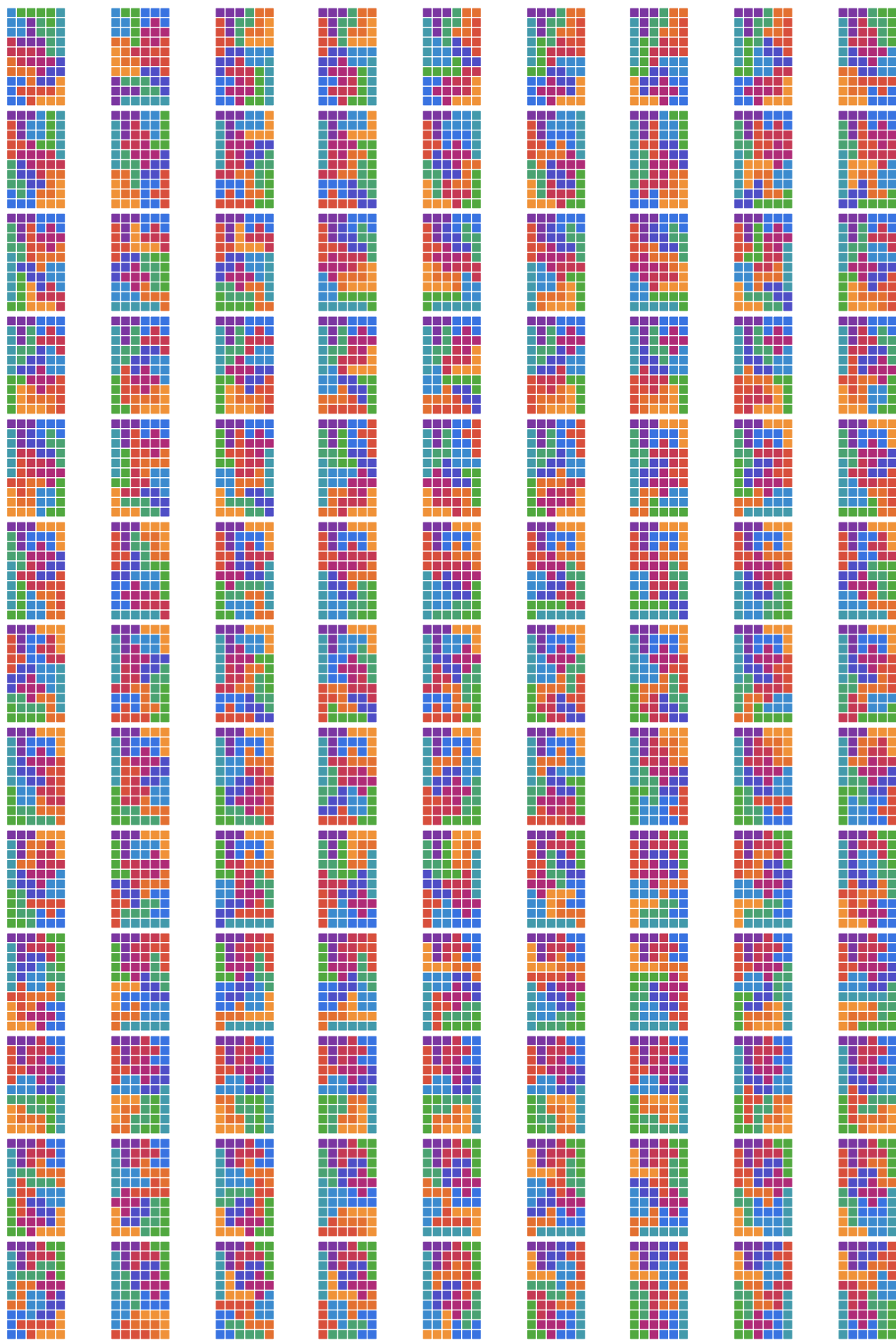


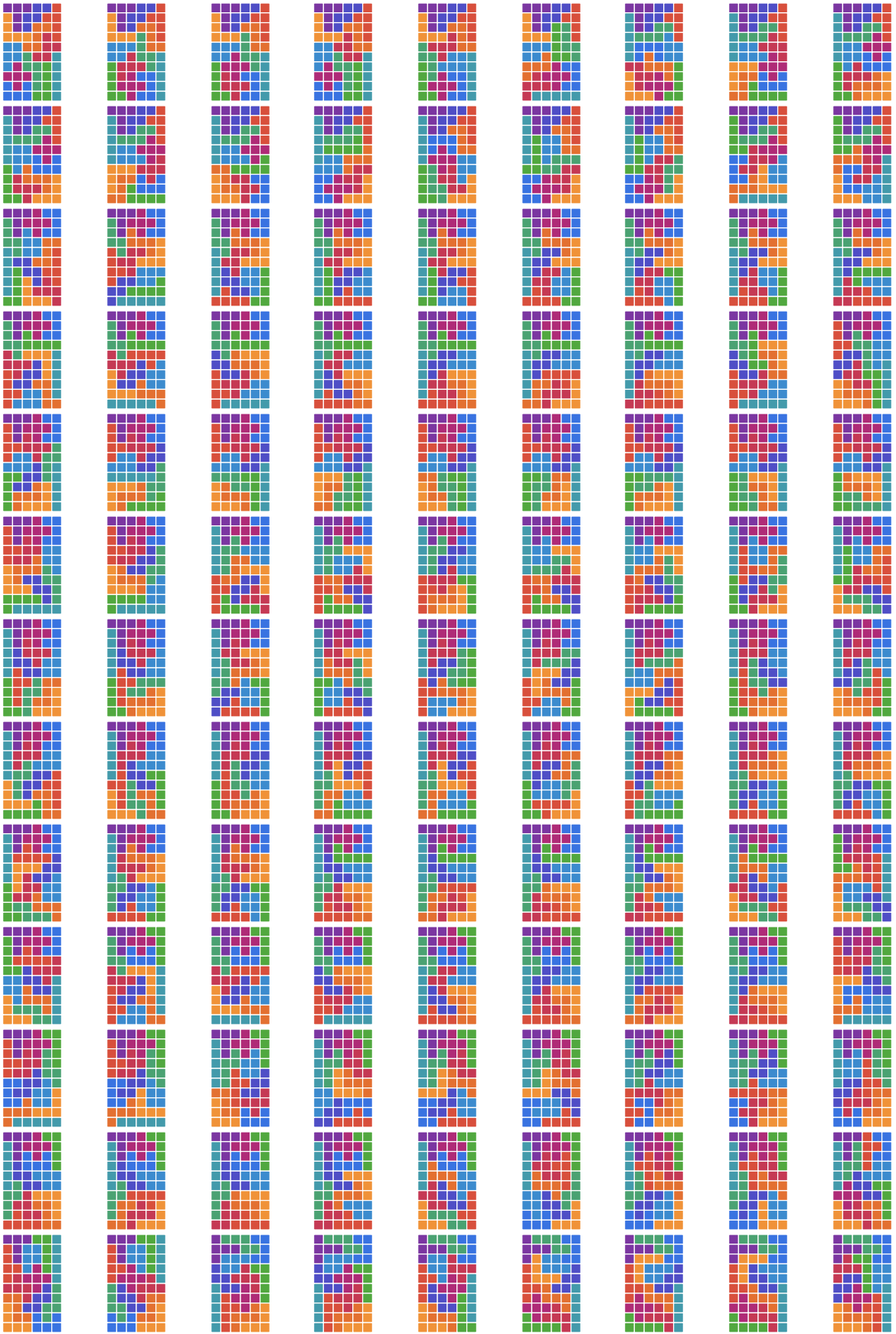


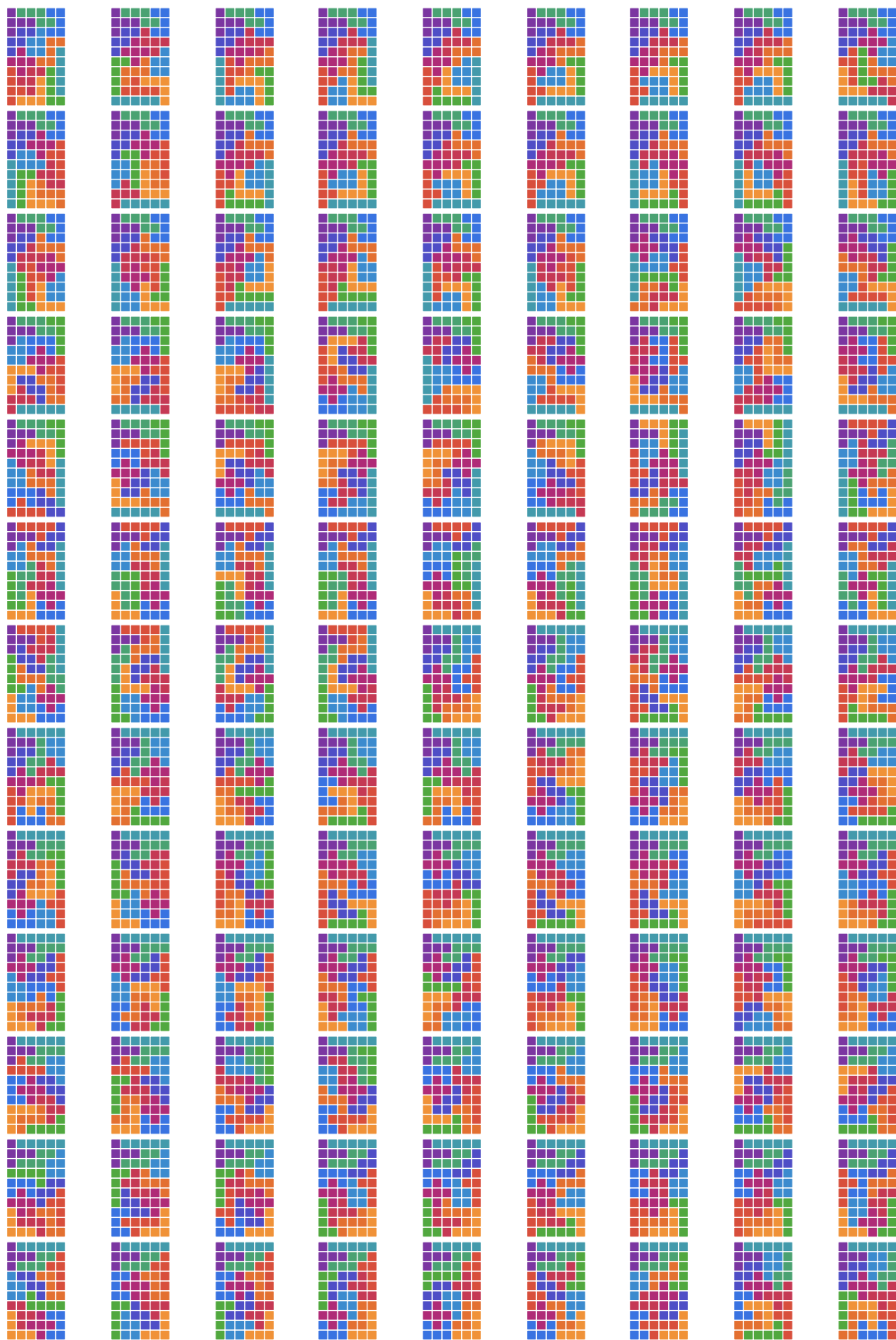


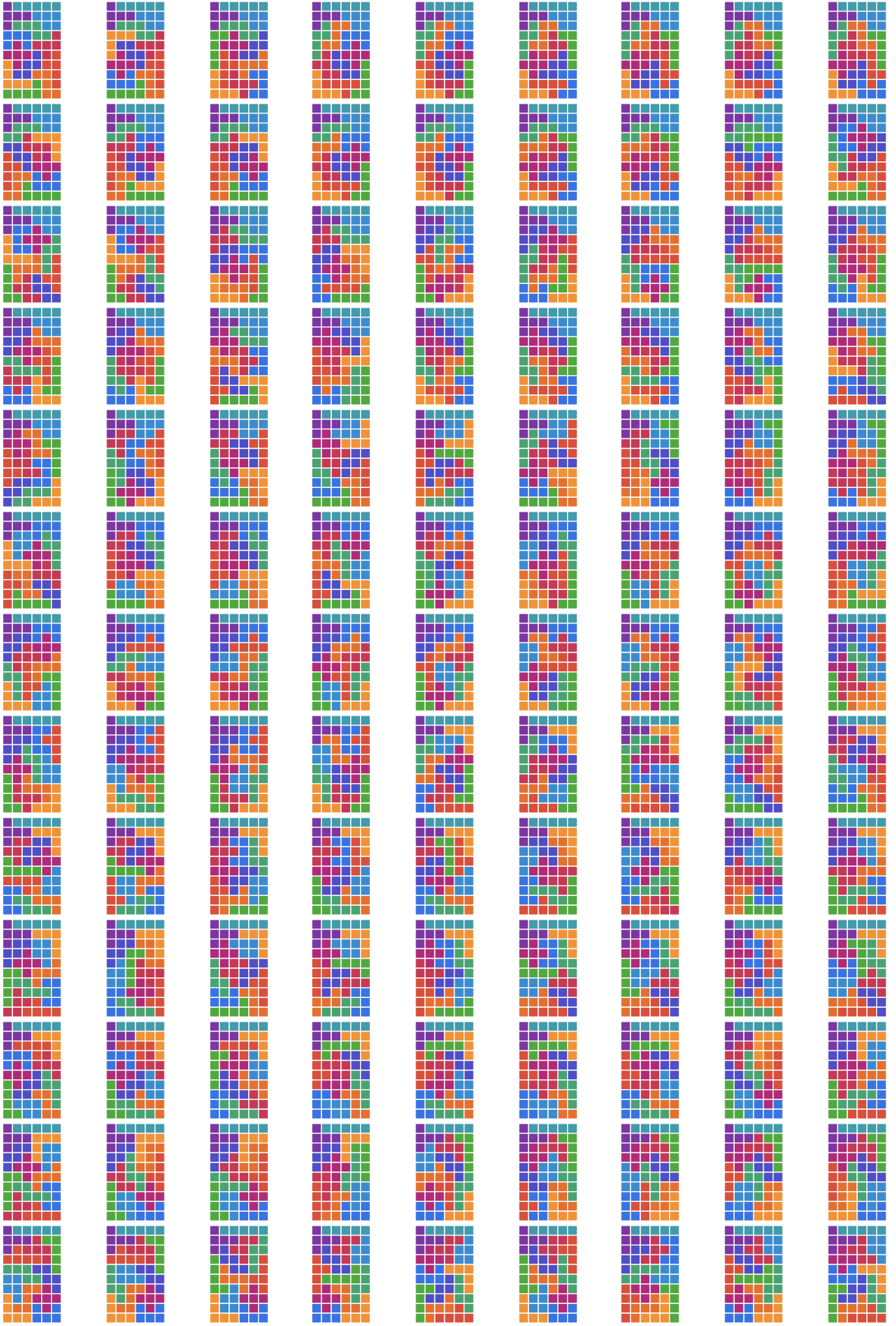


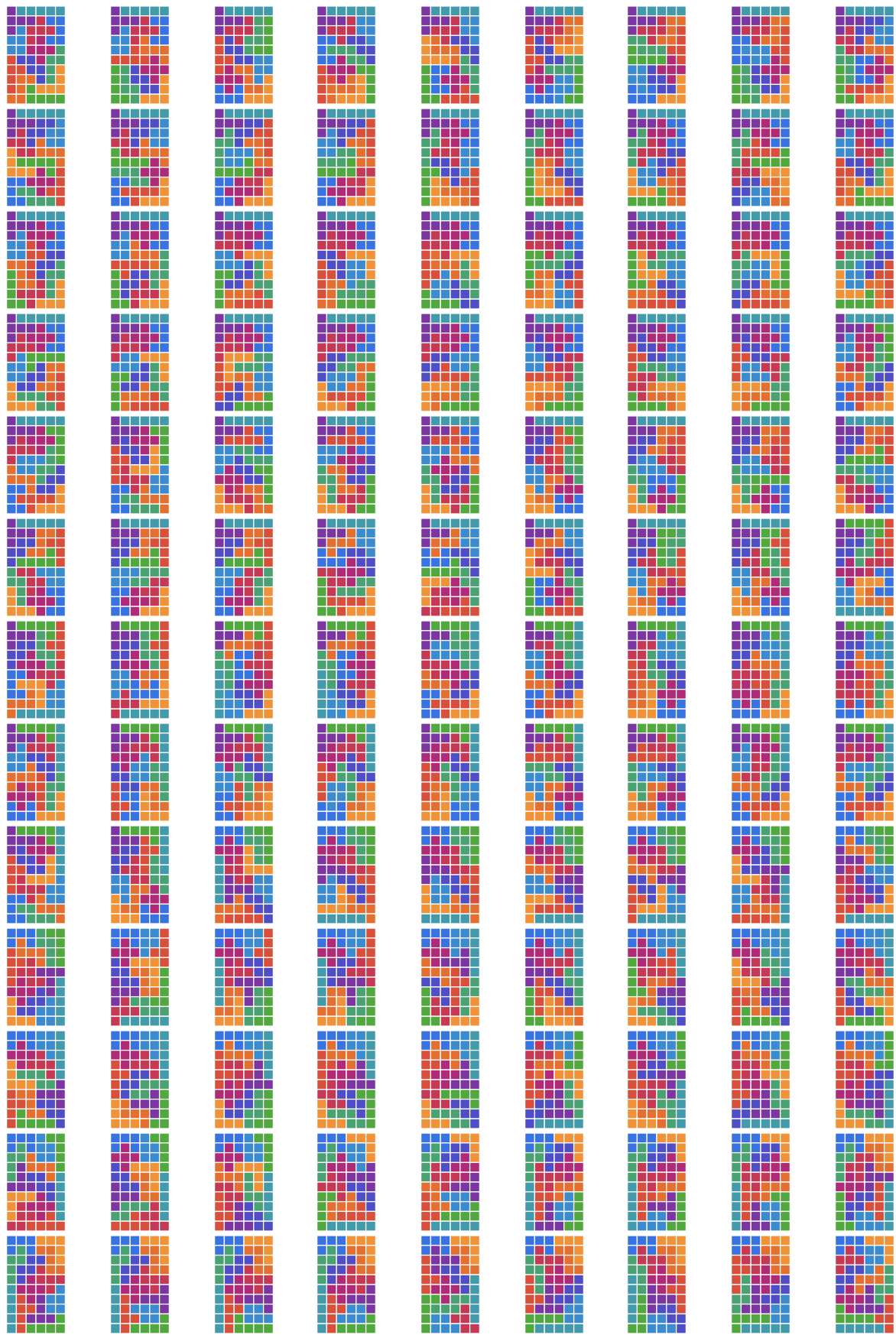


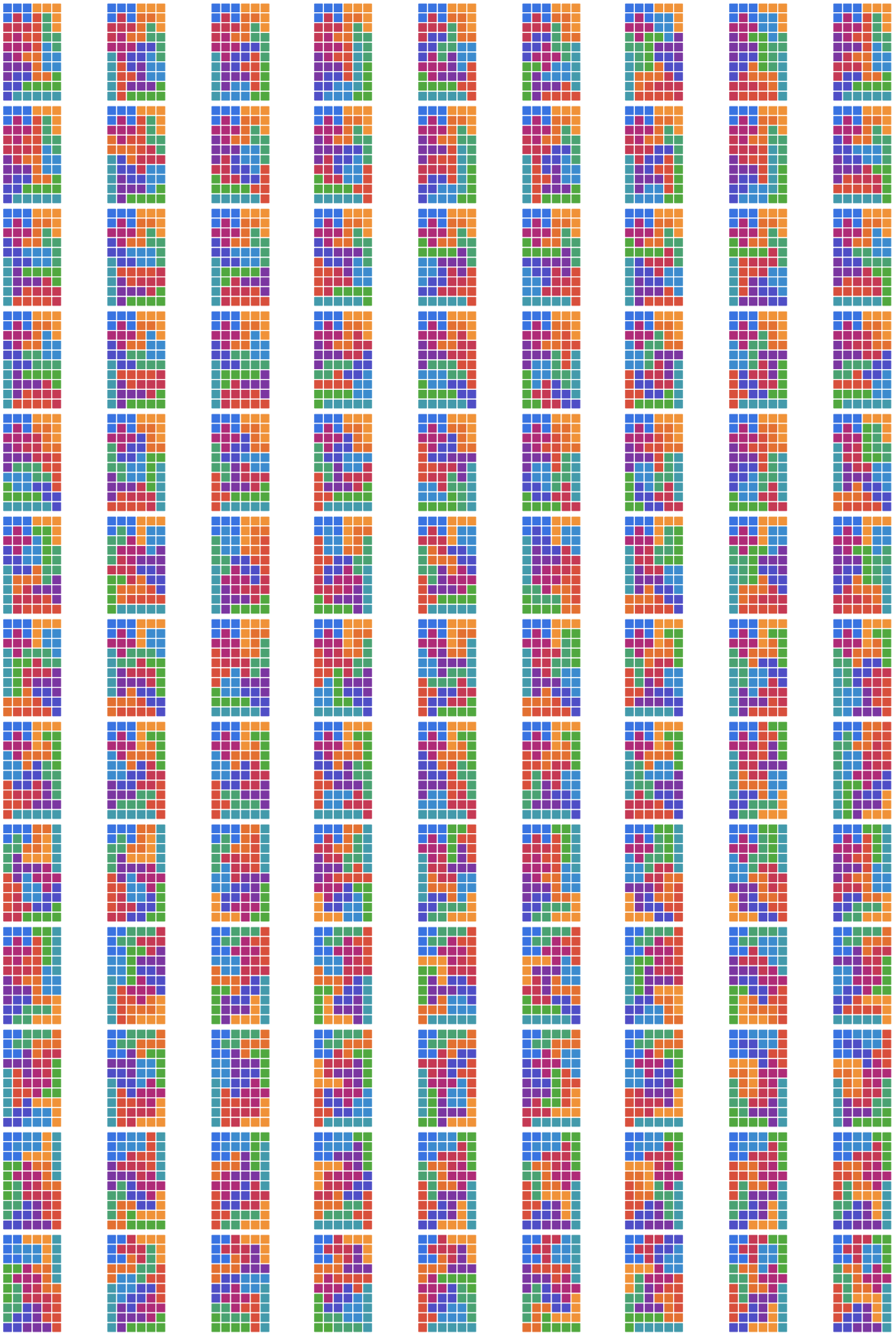


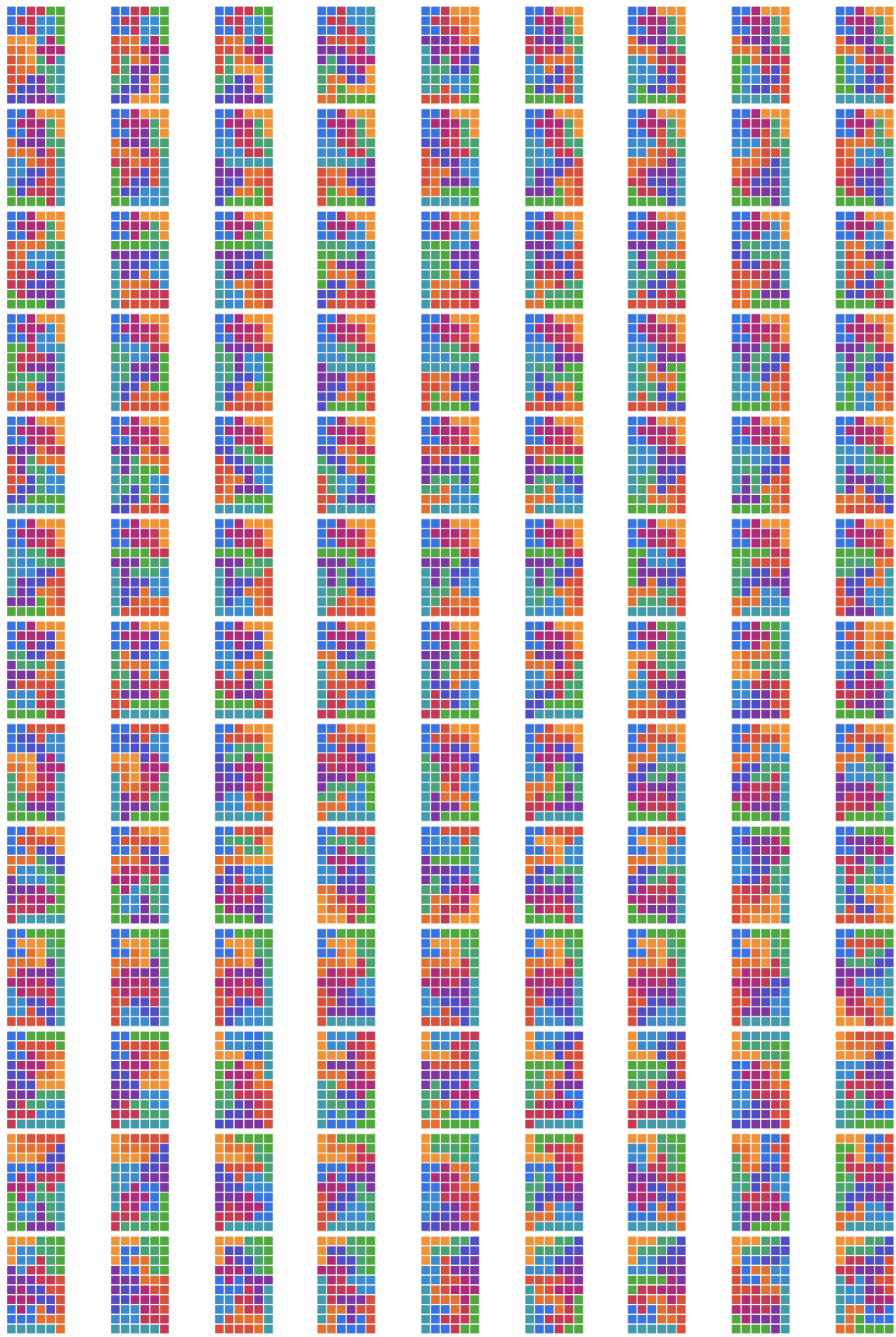


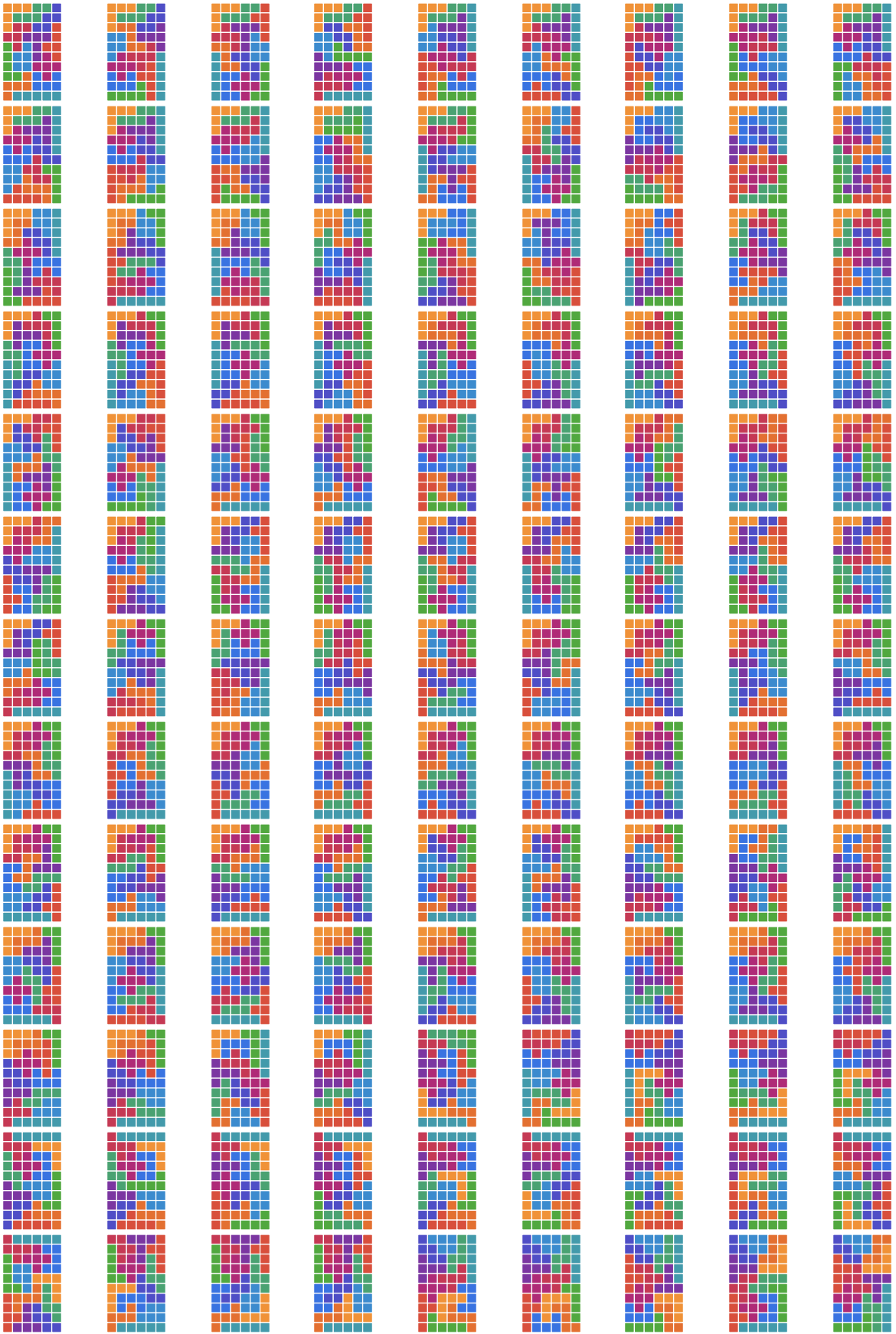


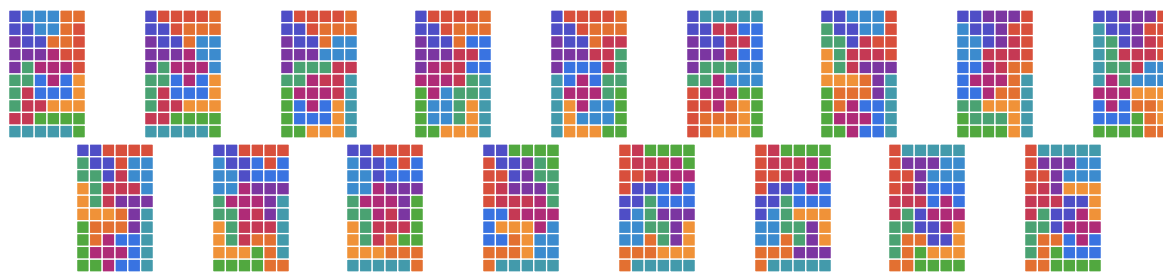


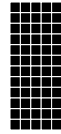




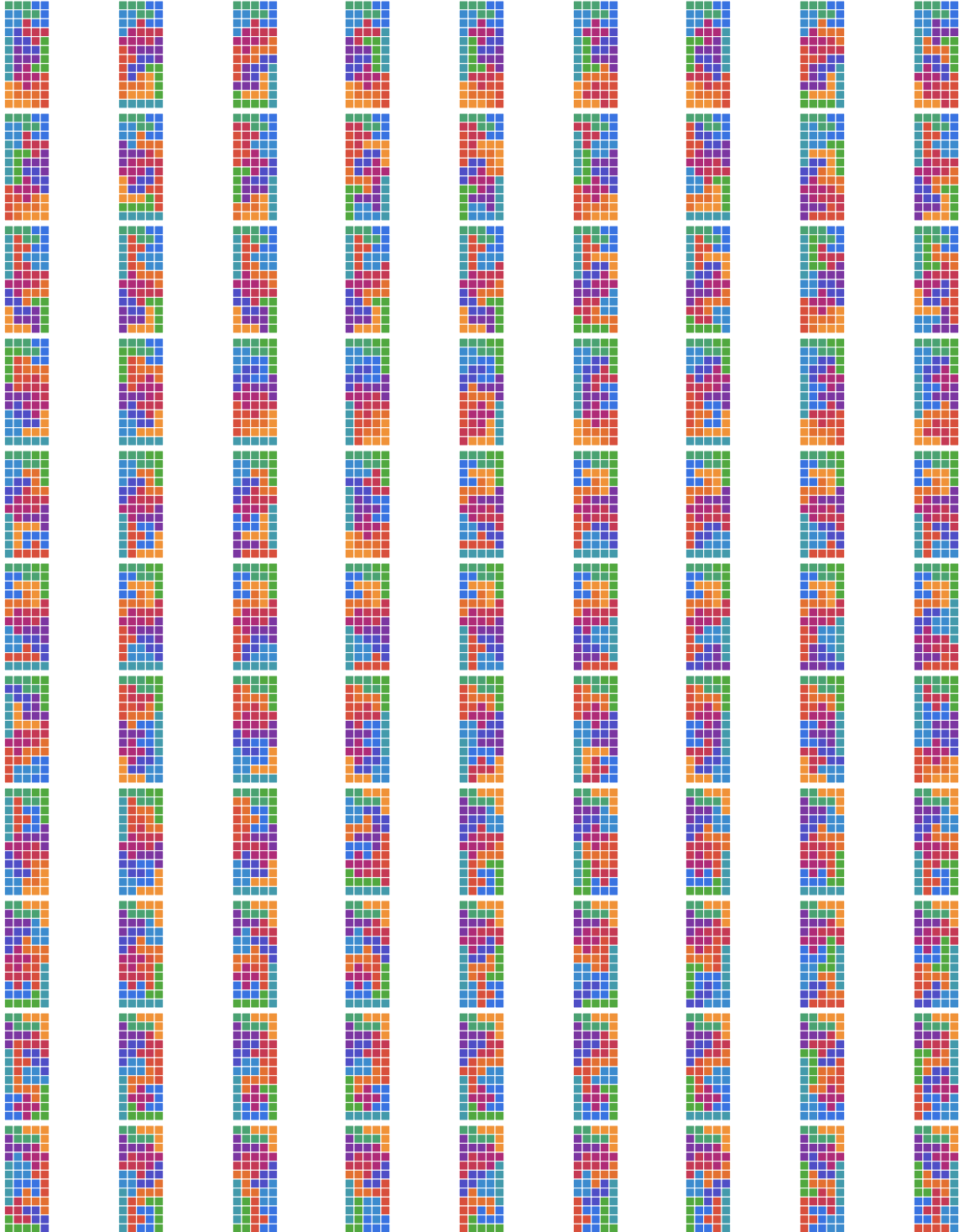


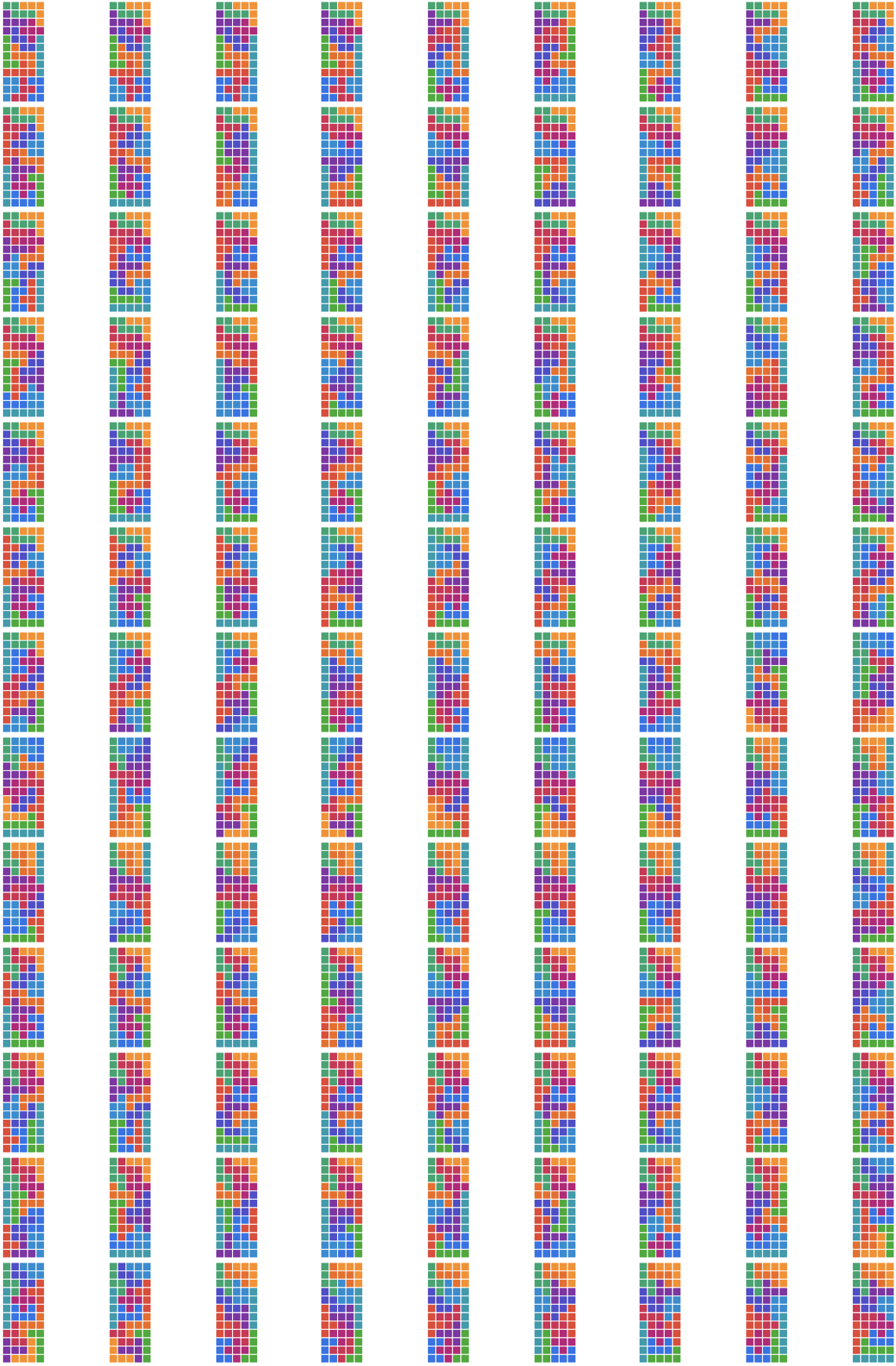


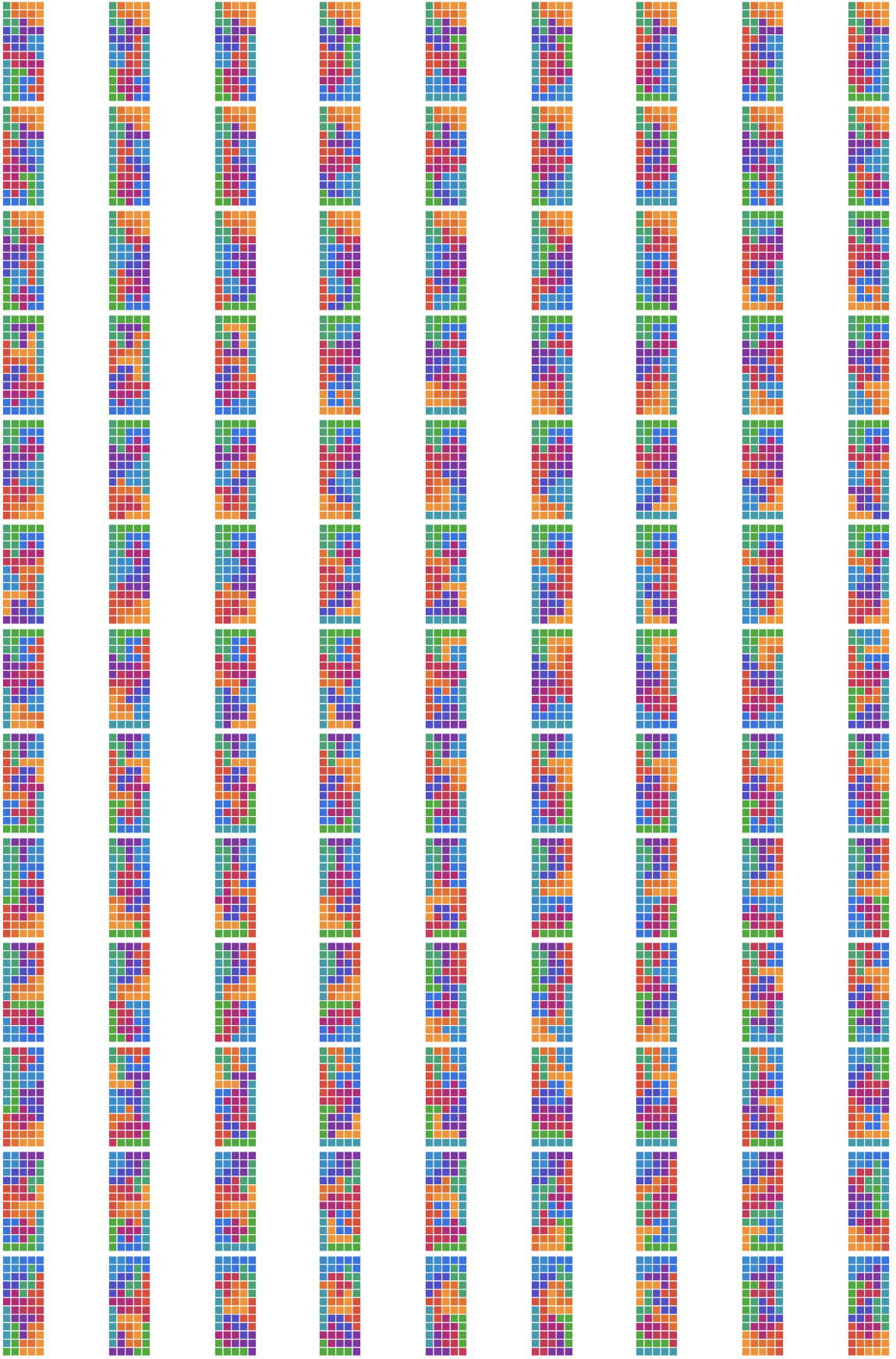


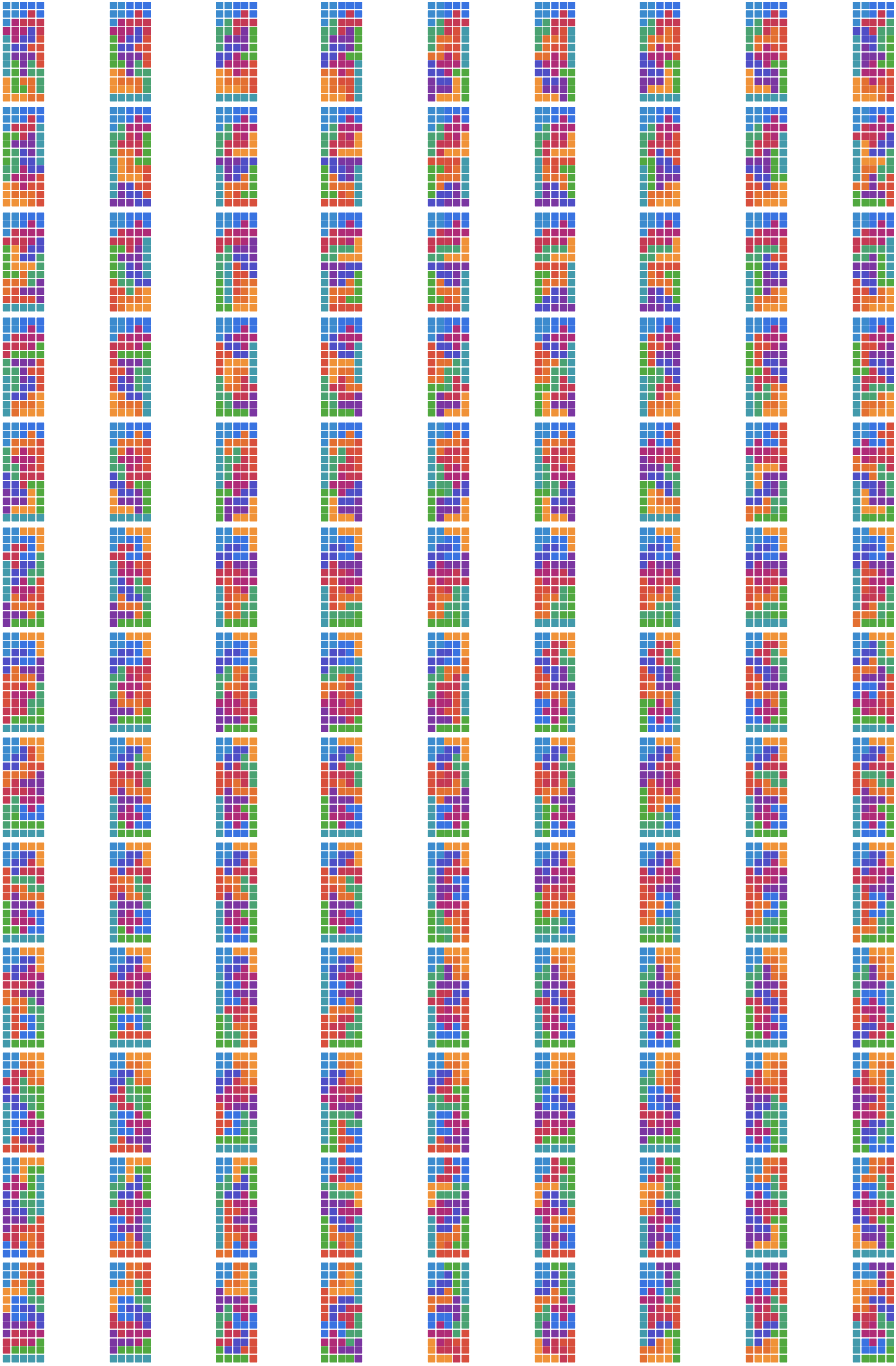


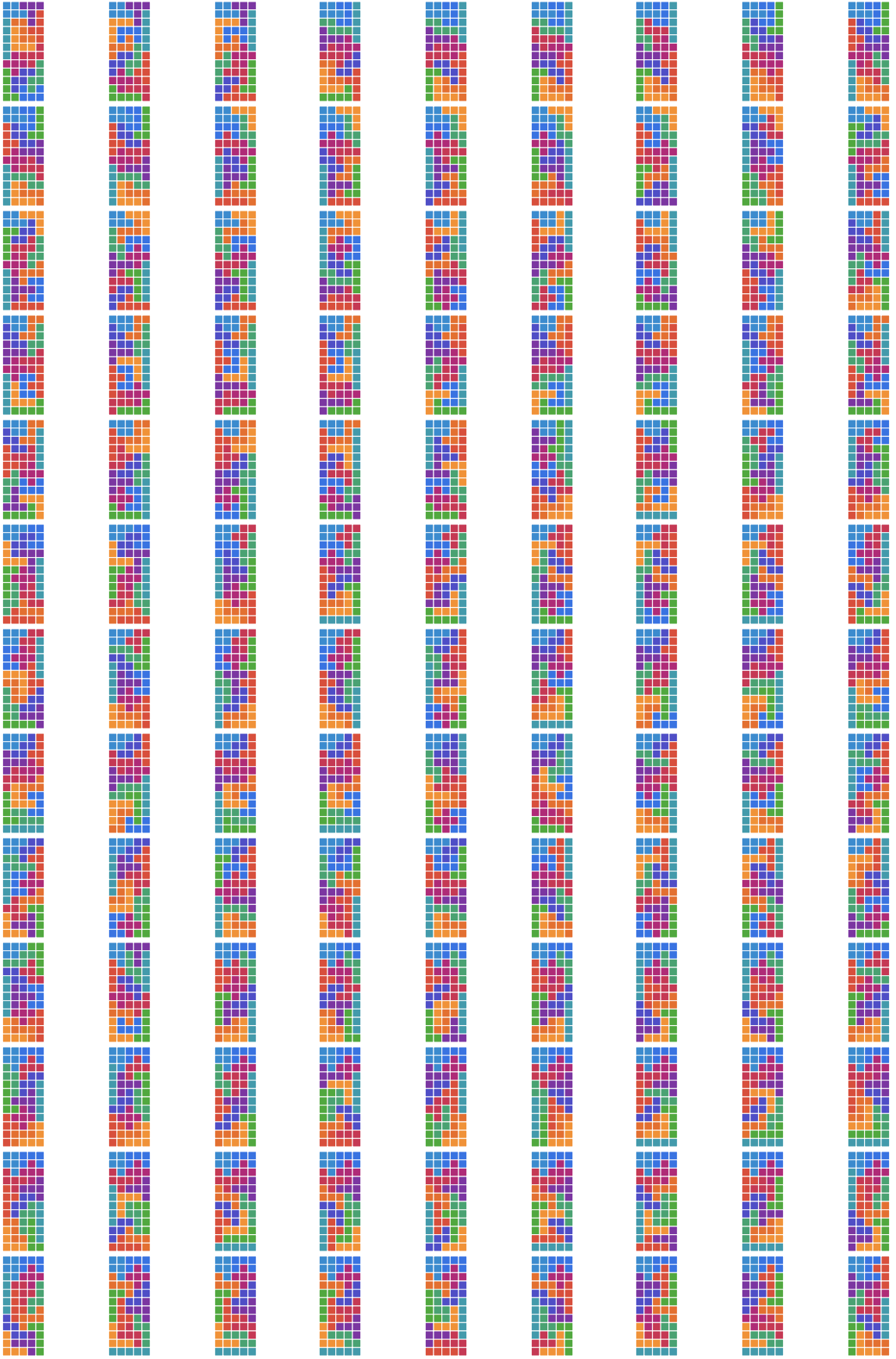
5x12
1,010
Solutions

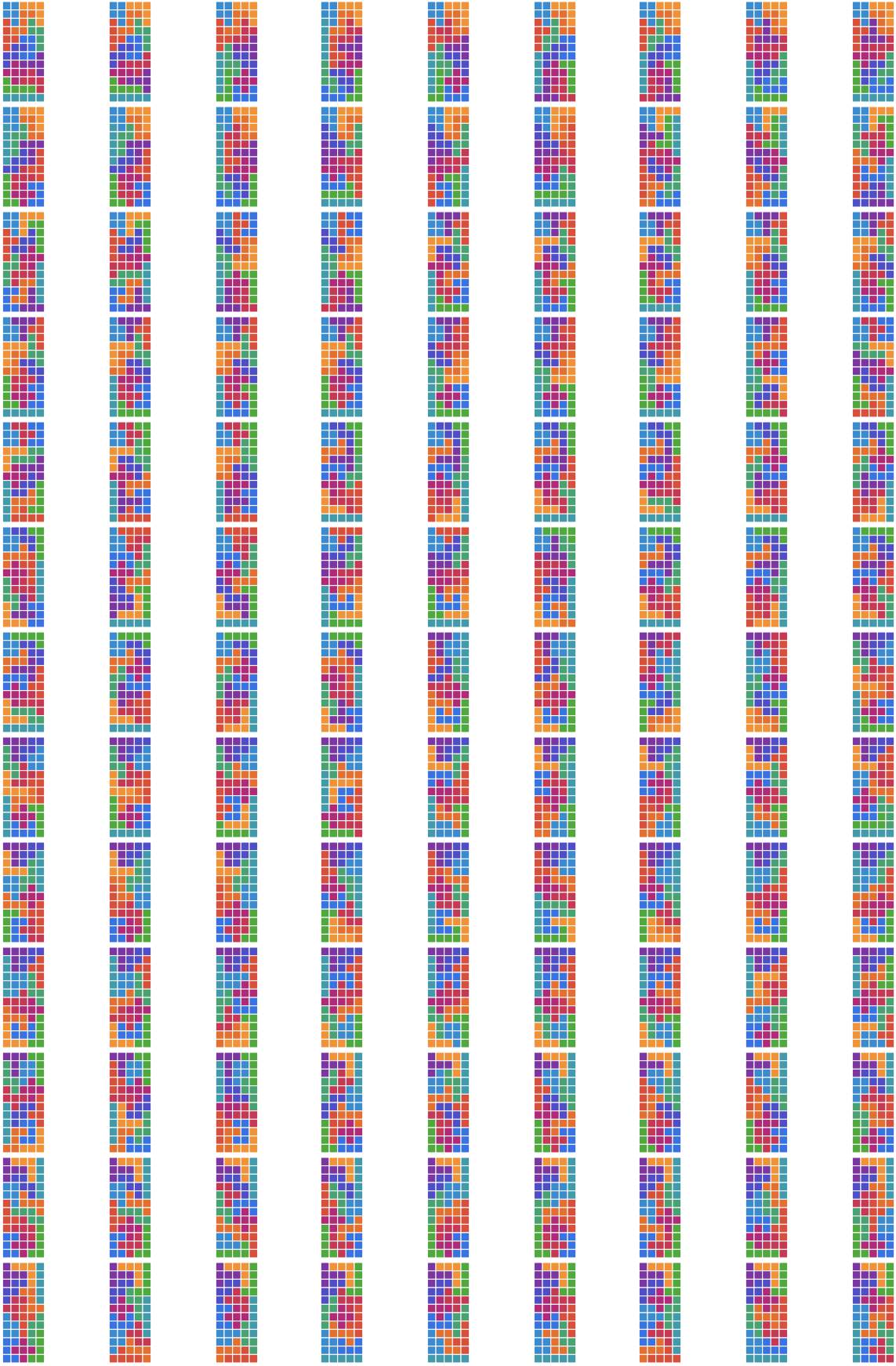


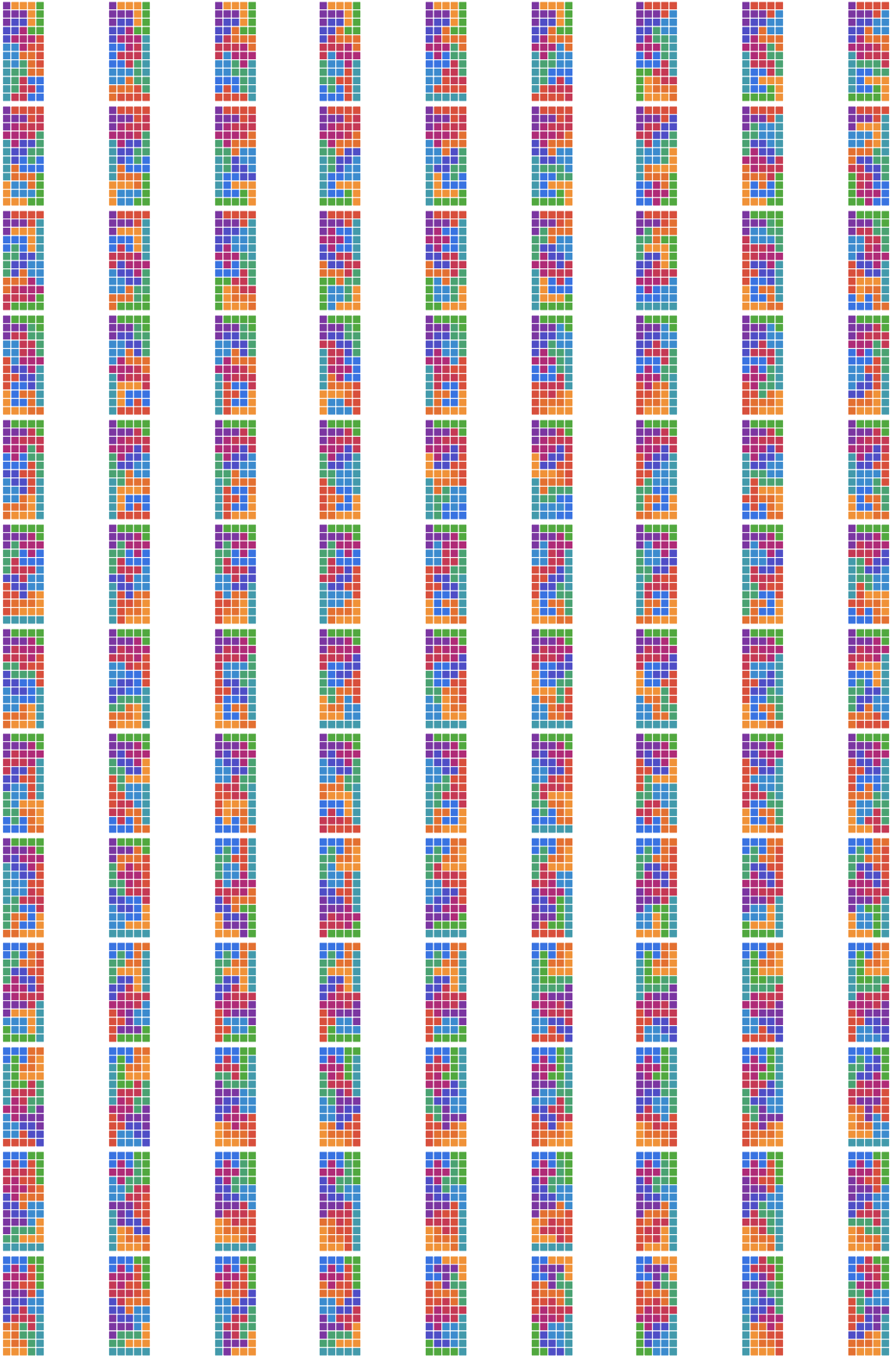


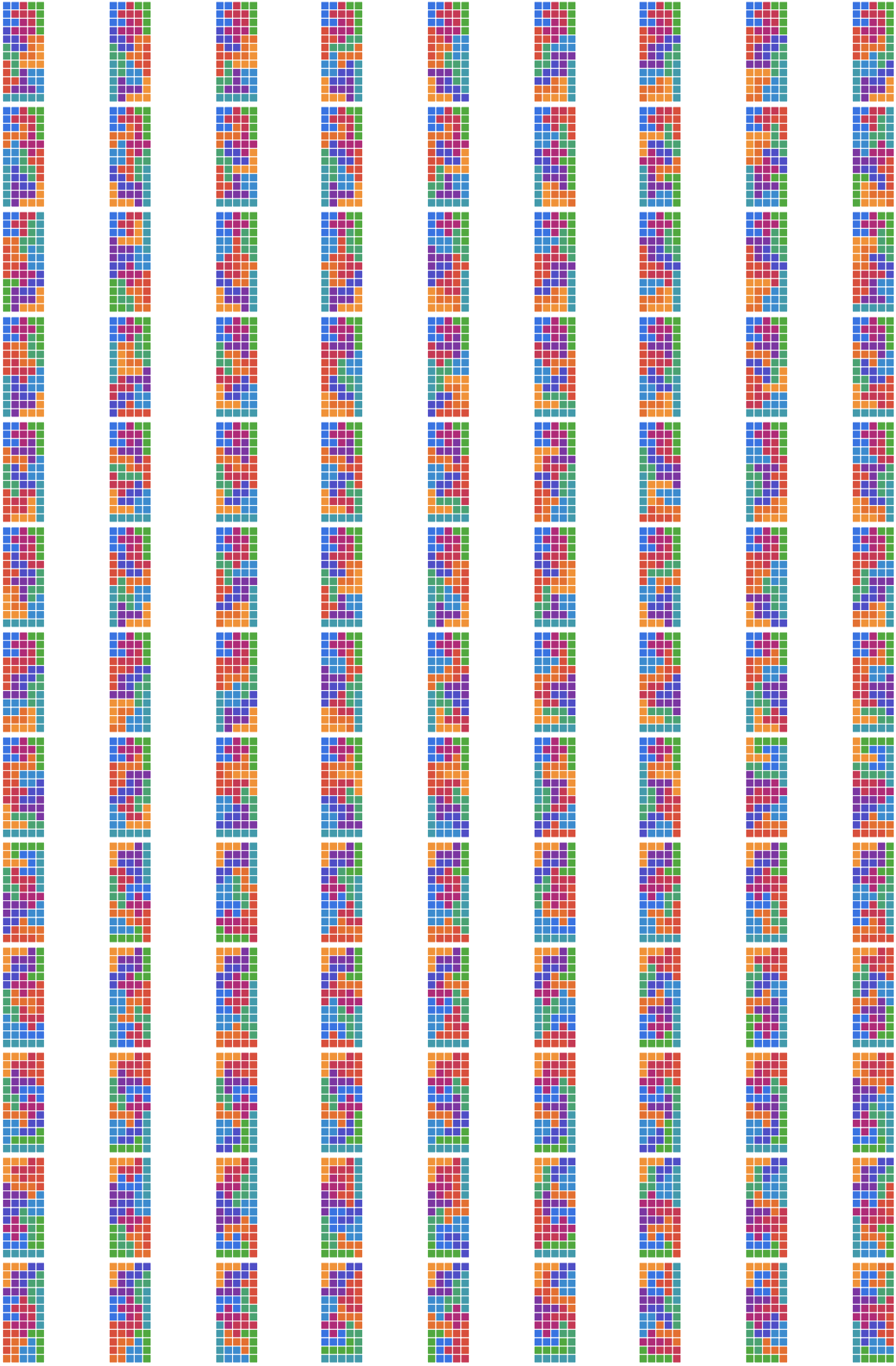


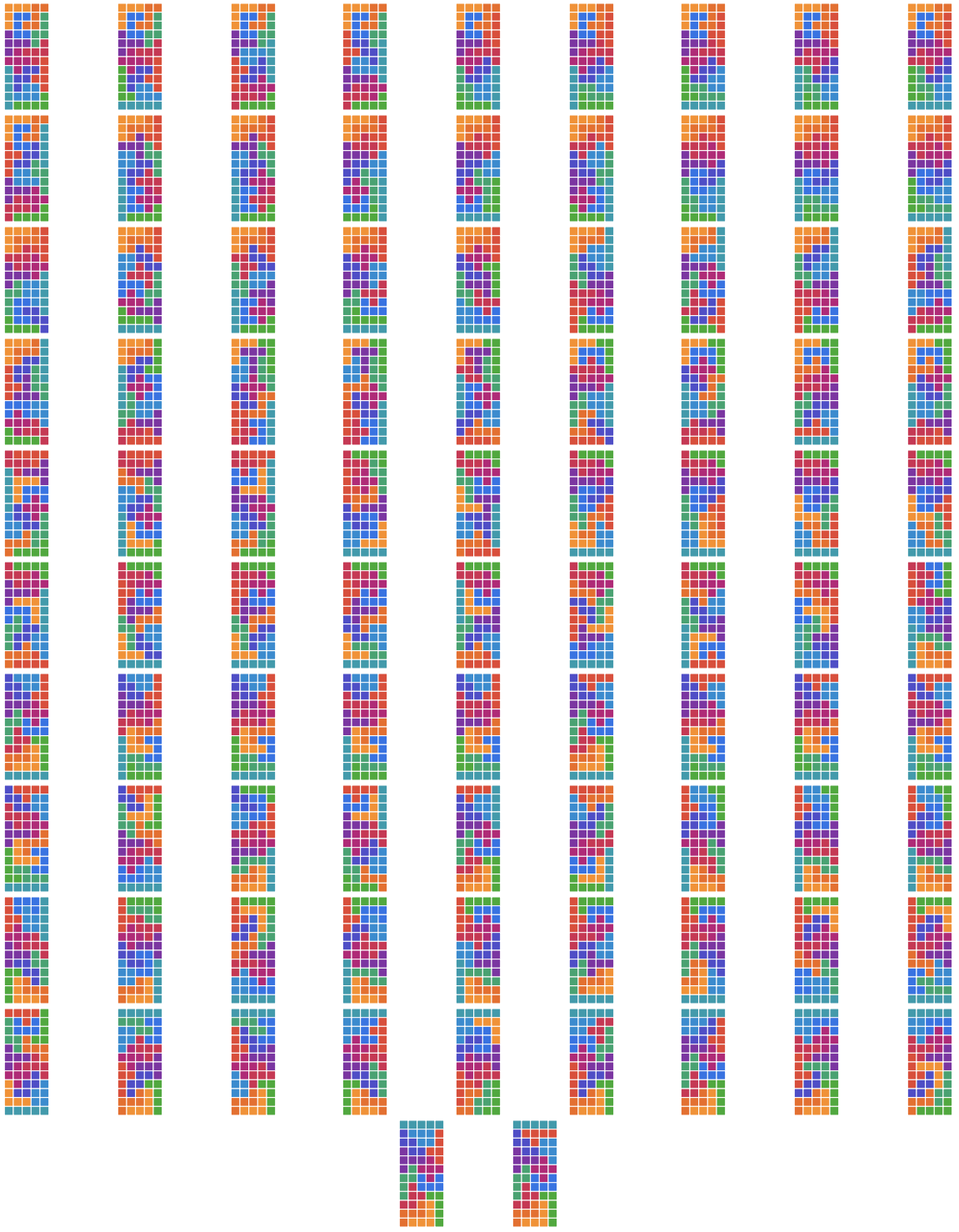








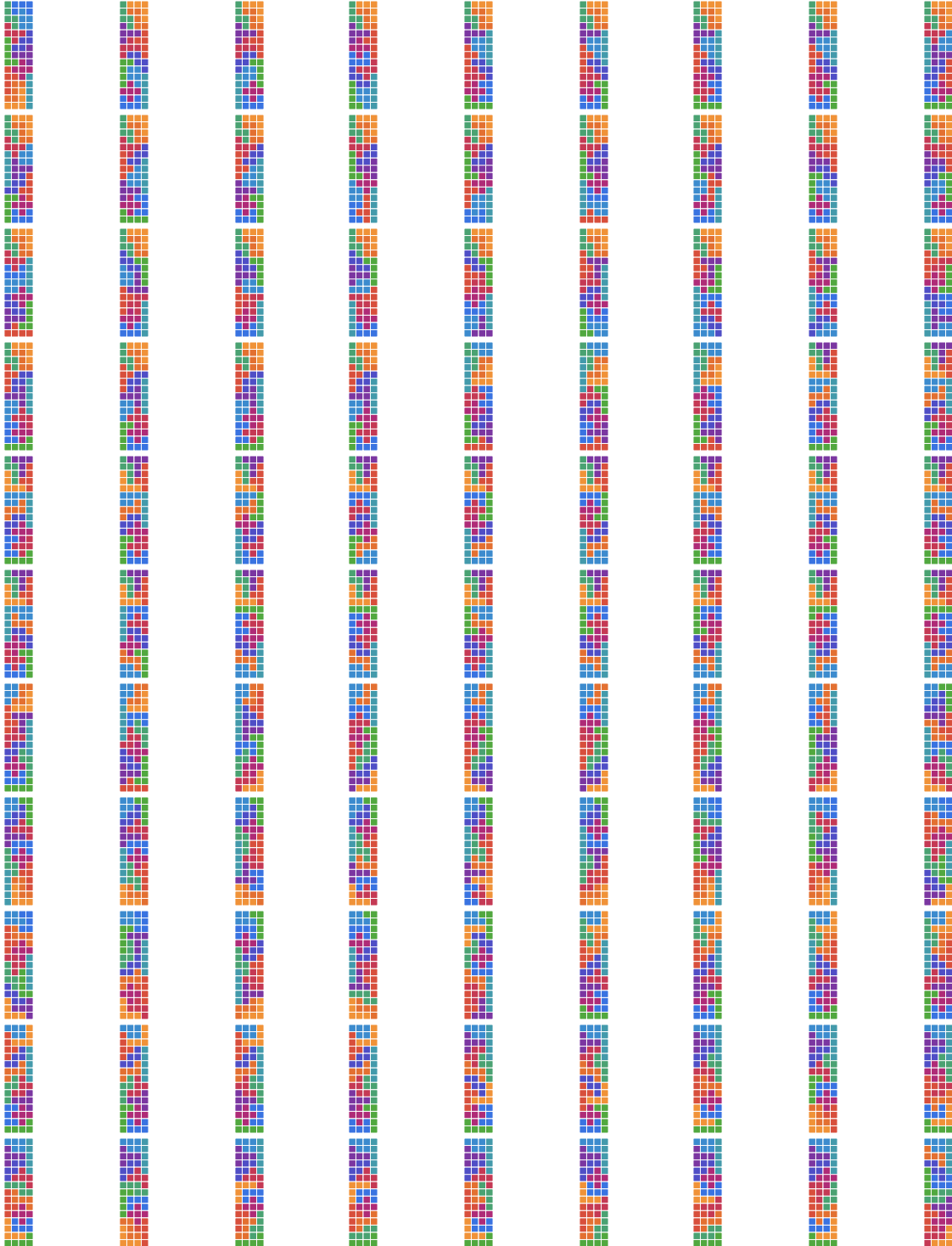


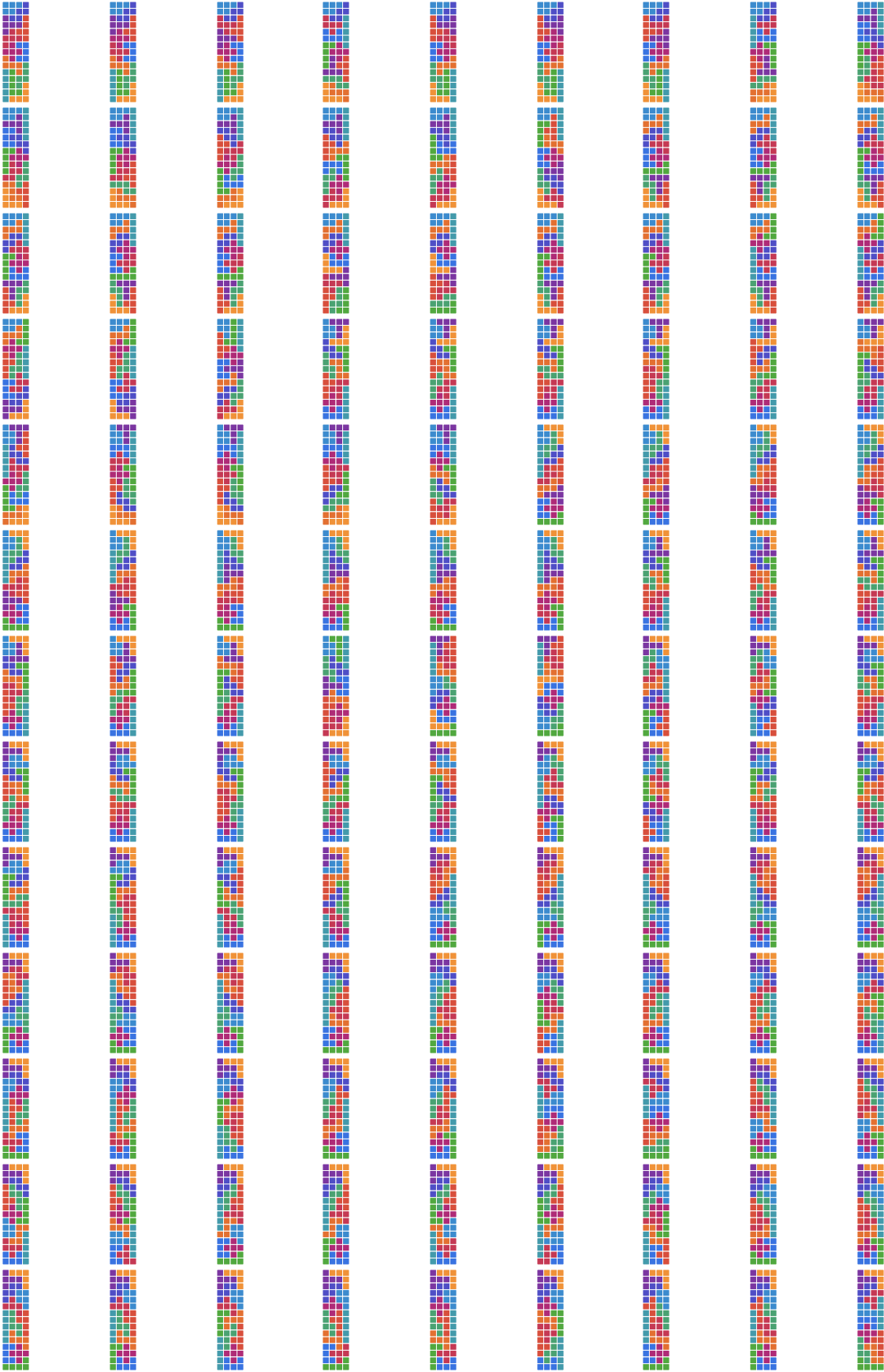


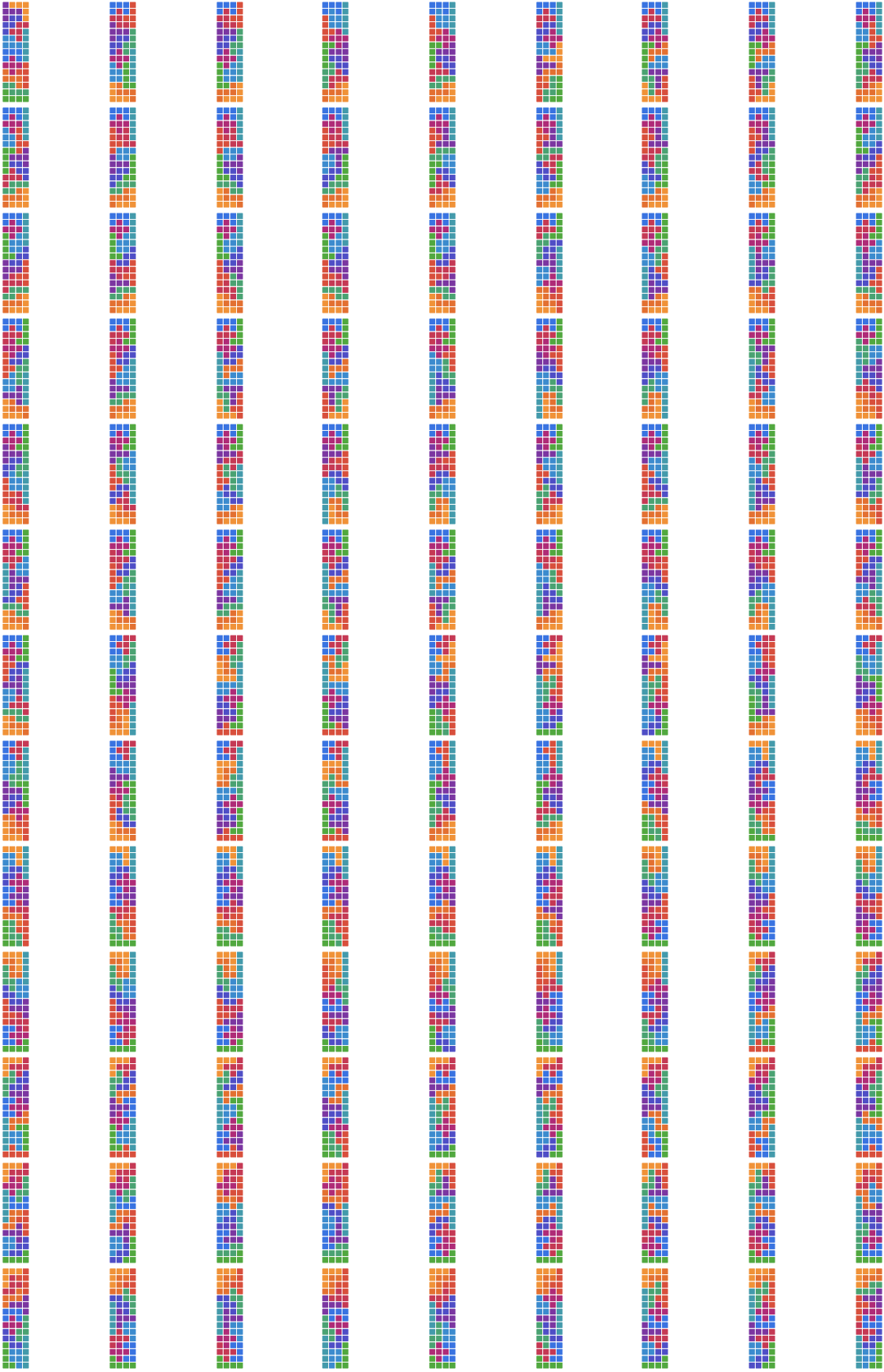


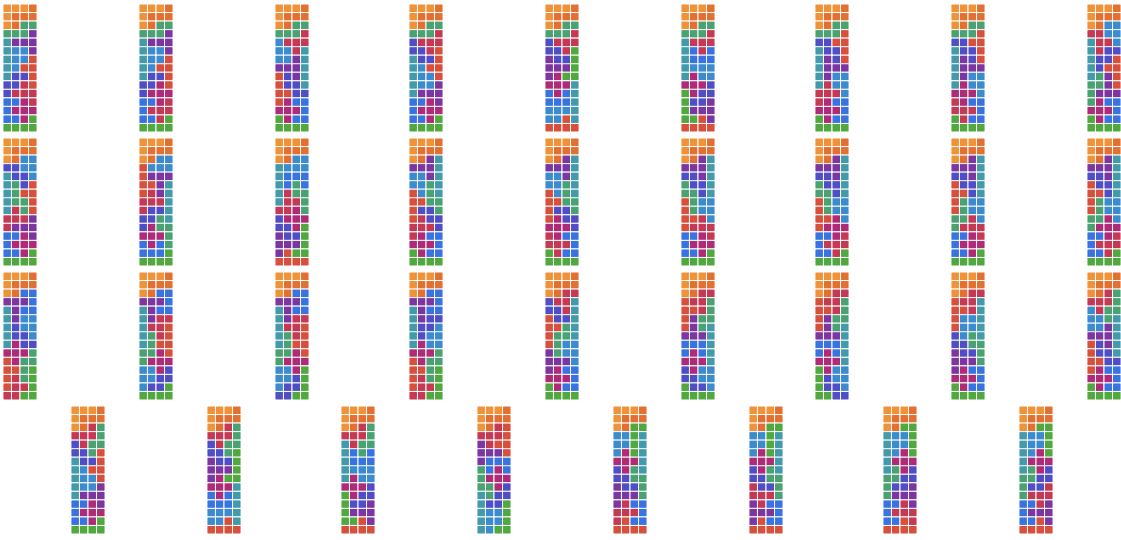
4x15

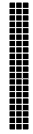
368 Solutions











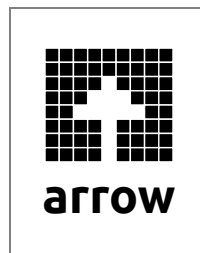
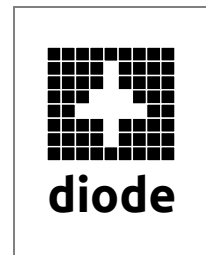
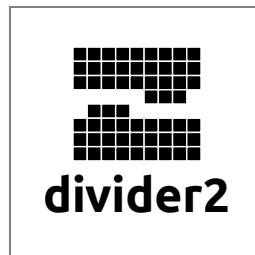
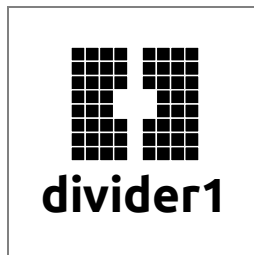
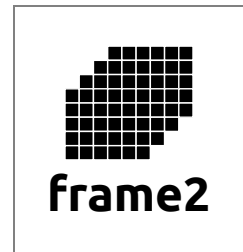
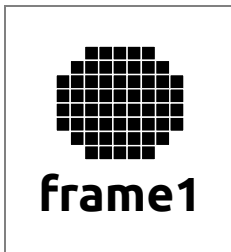
3x20

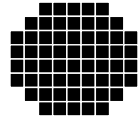
2 Solutions



9x8 Rectangle

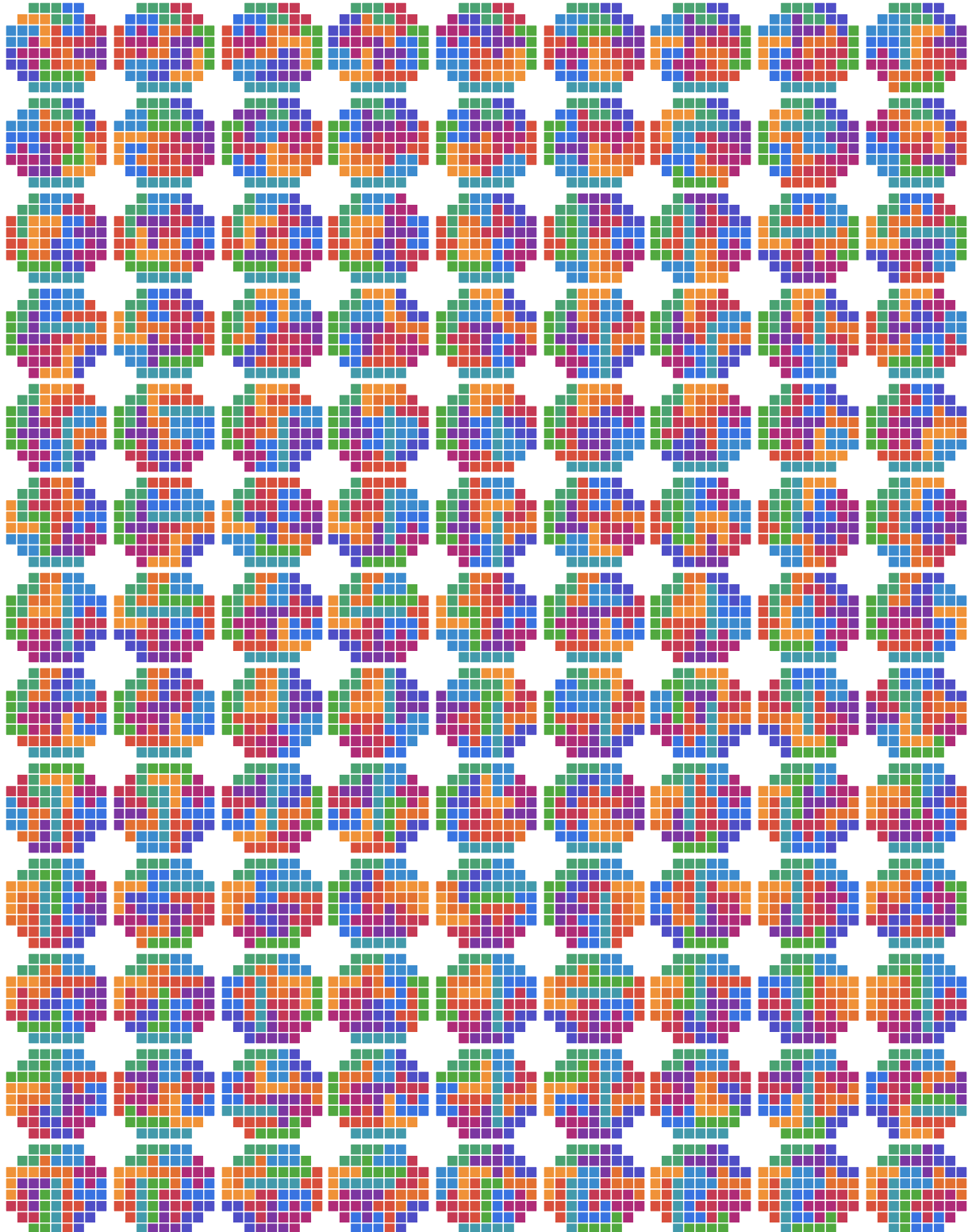
All of these shapes are composed of a 9x8 rectangle with twelve blocks missing.

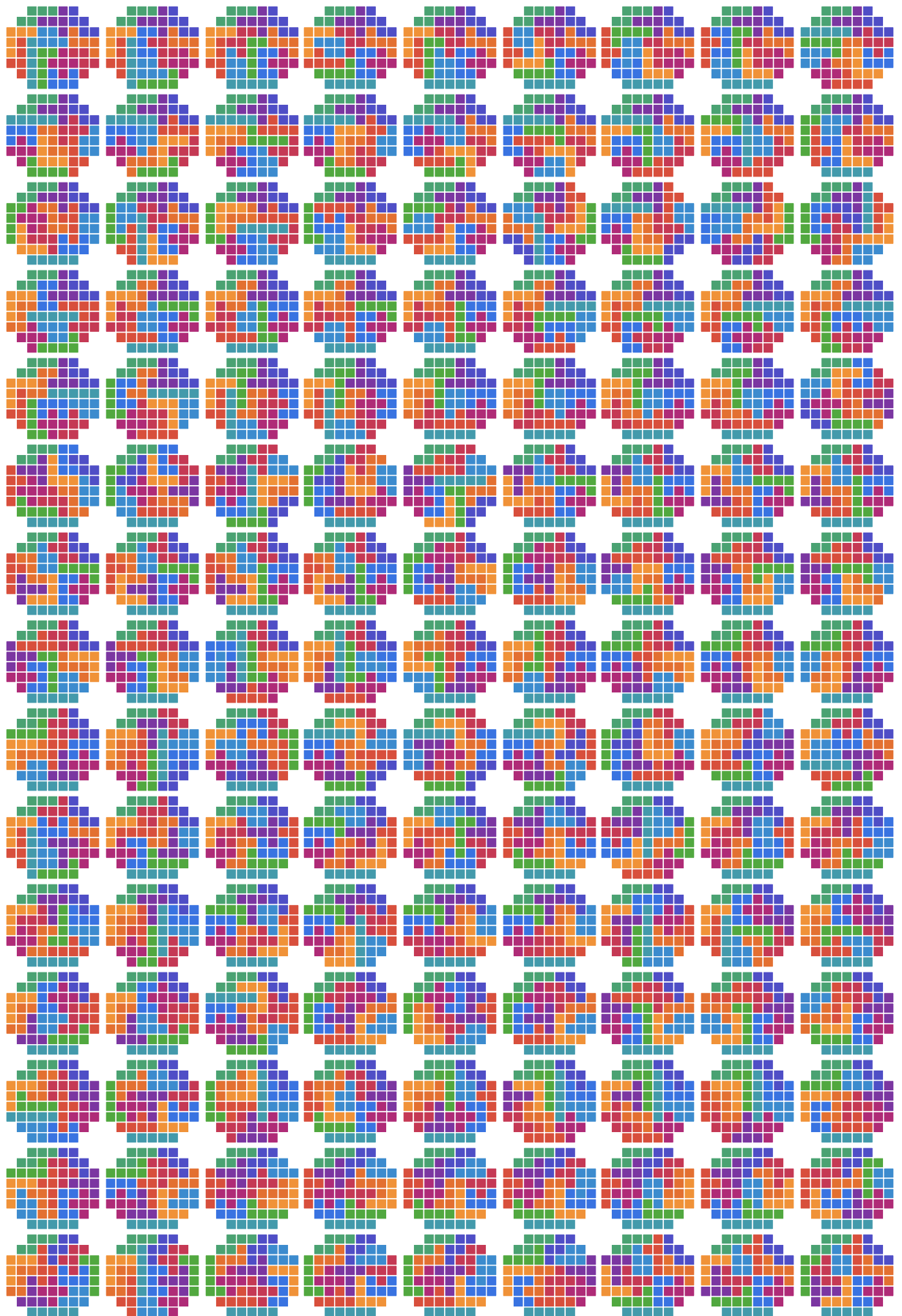


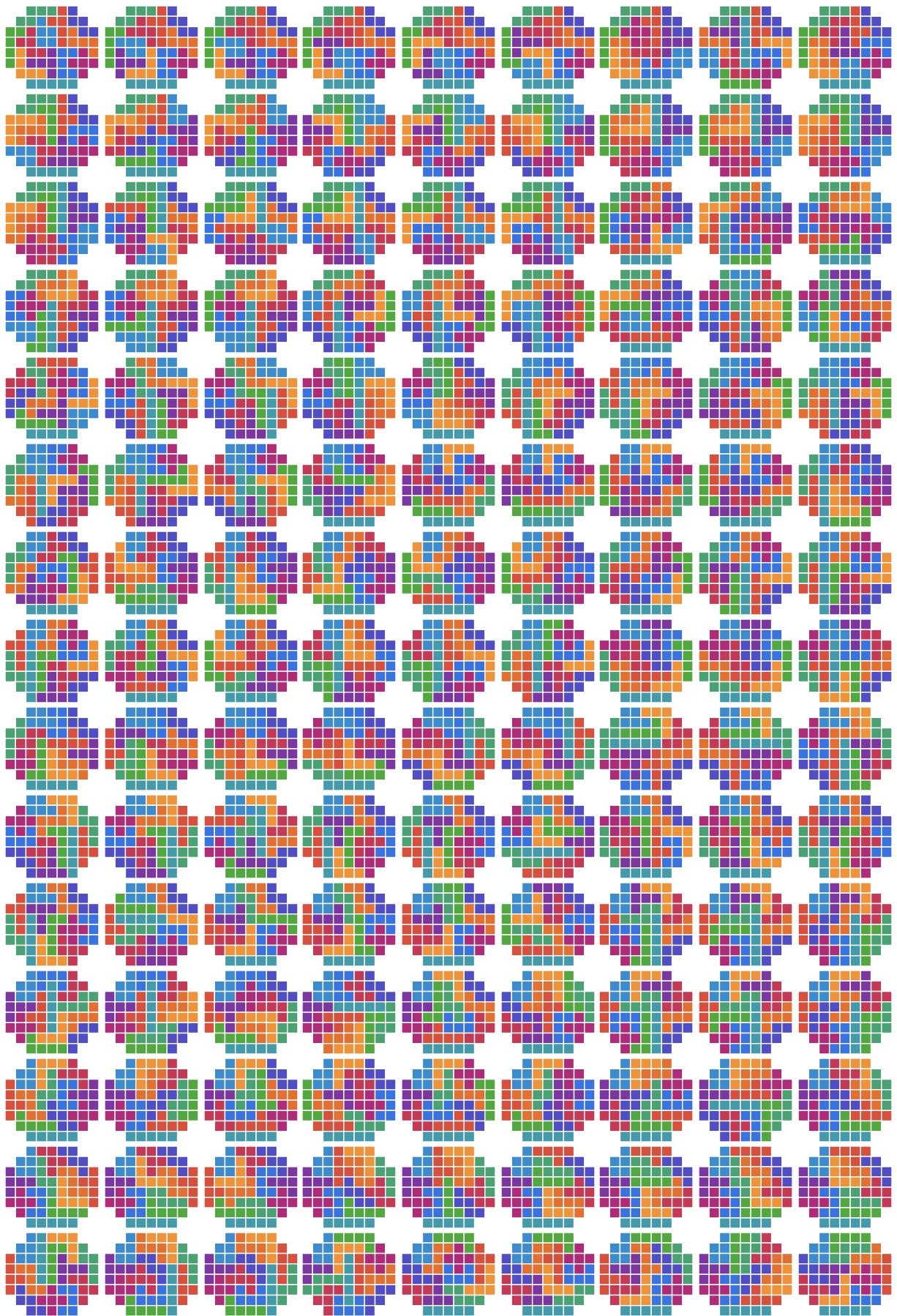


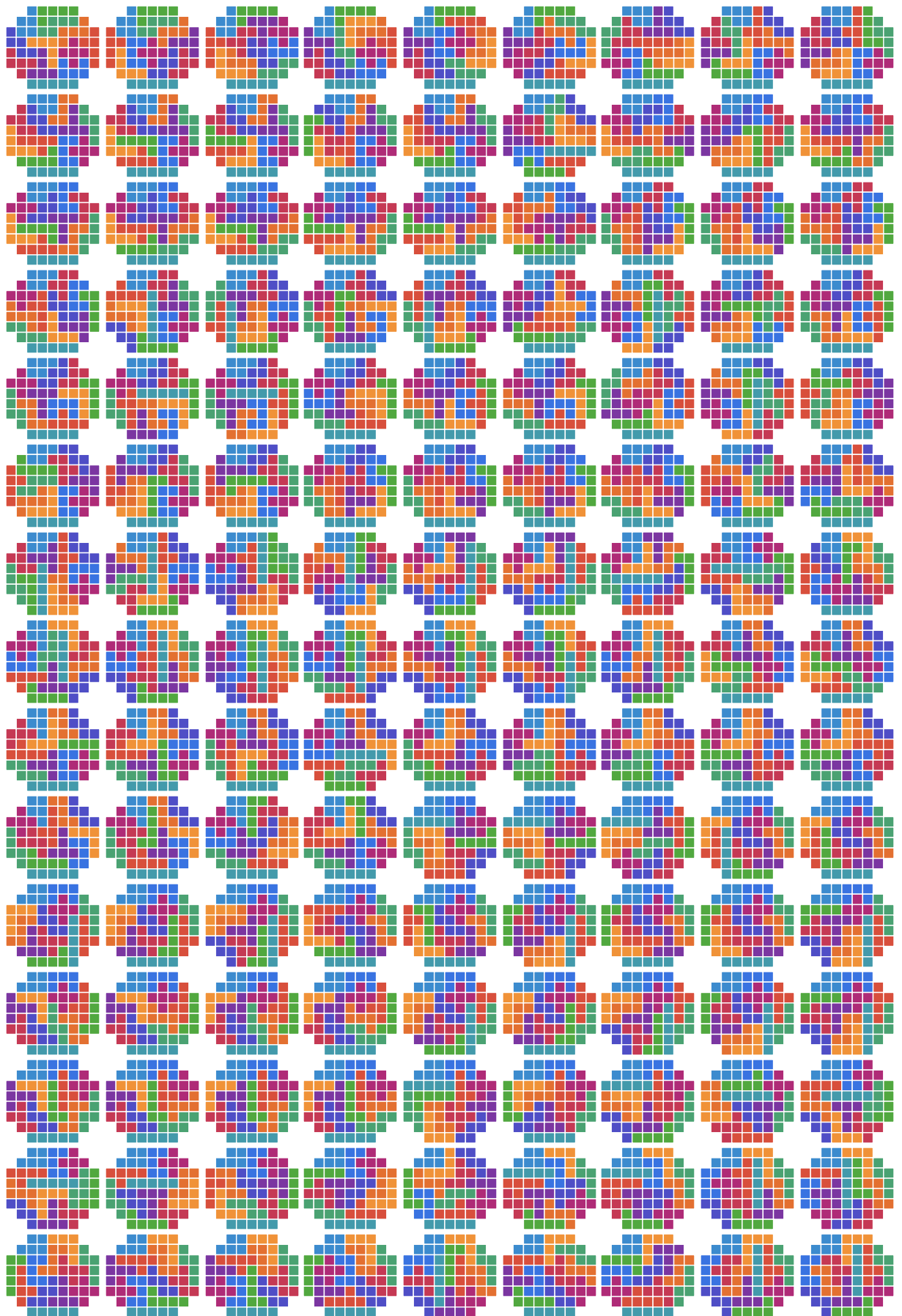
frame1

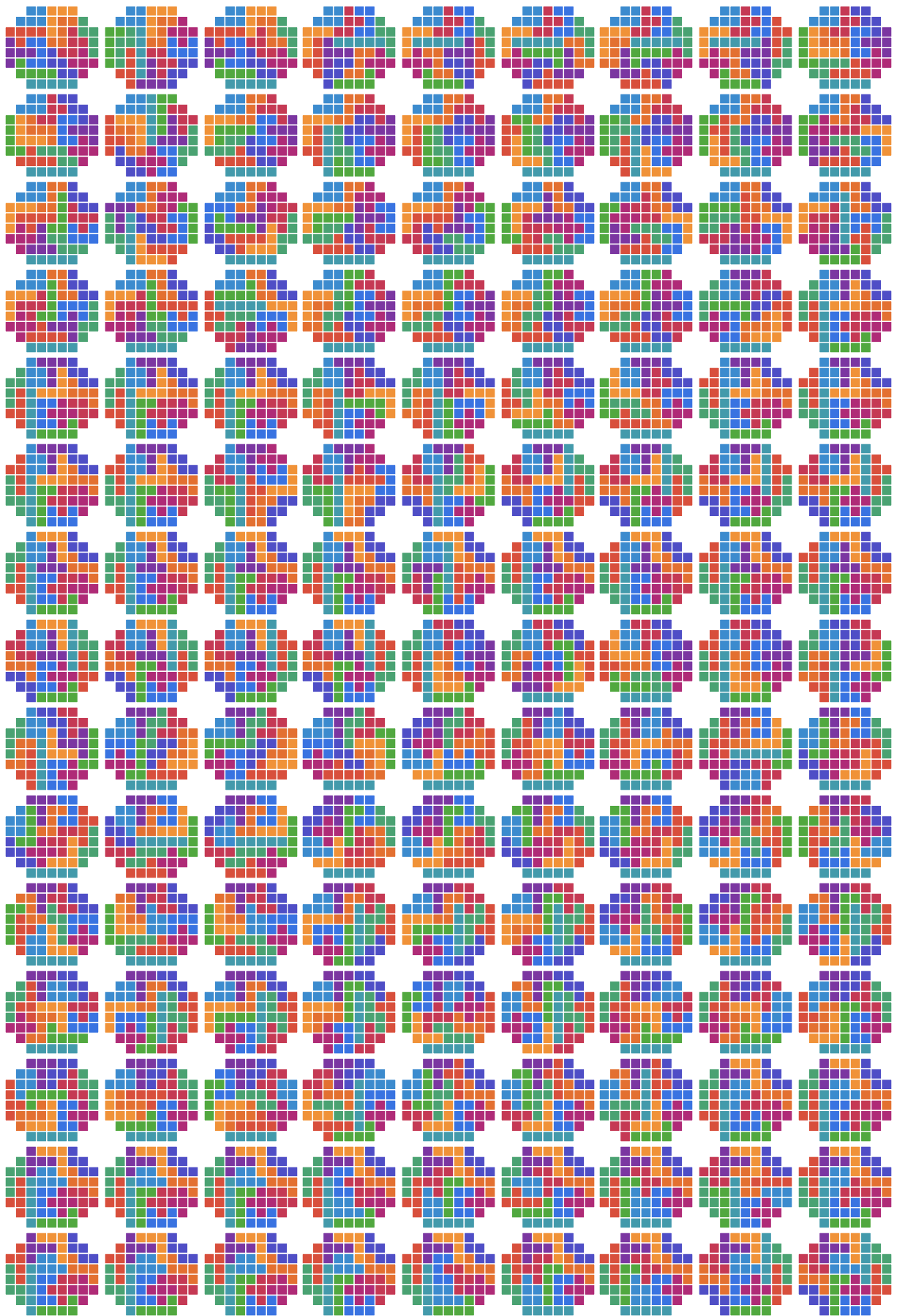
1,595 Solutions

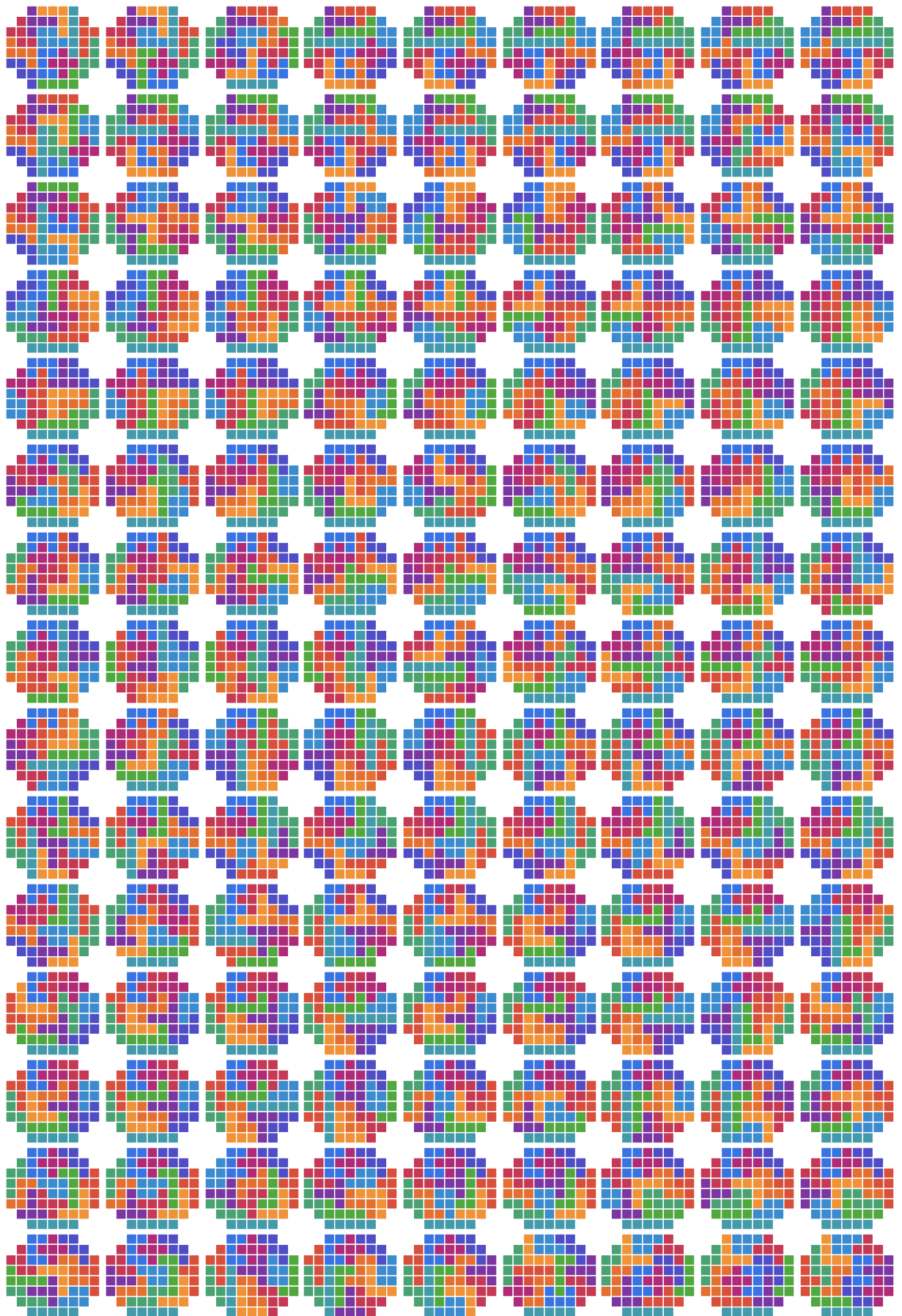


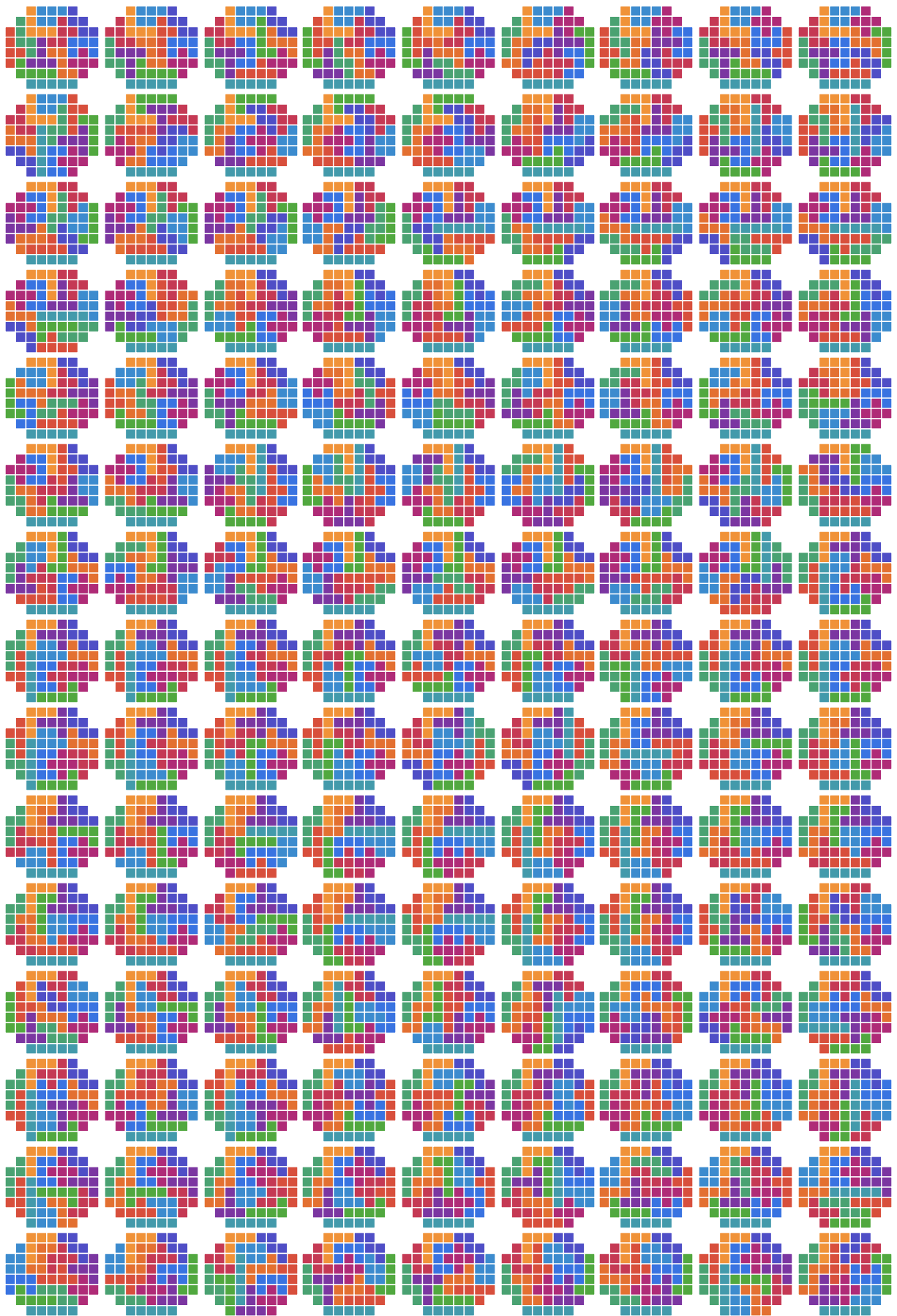


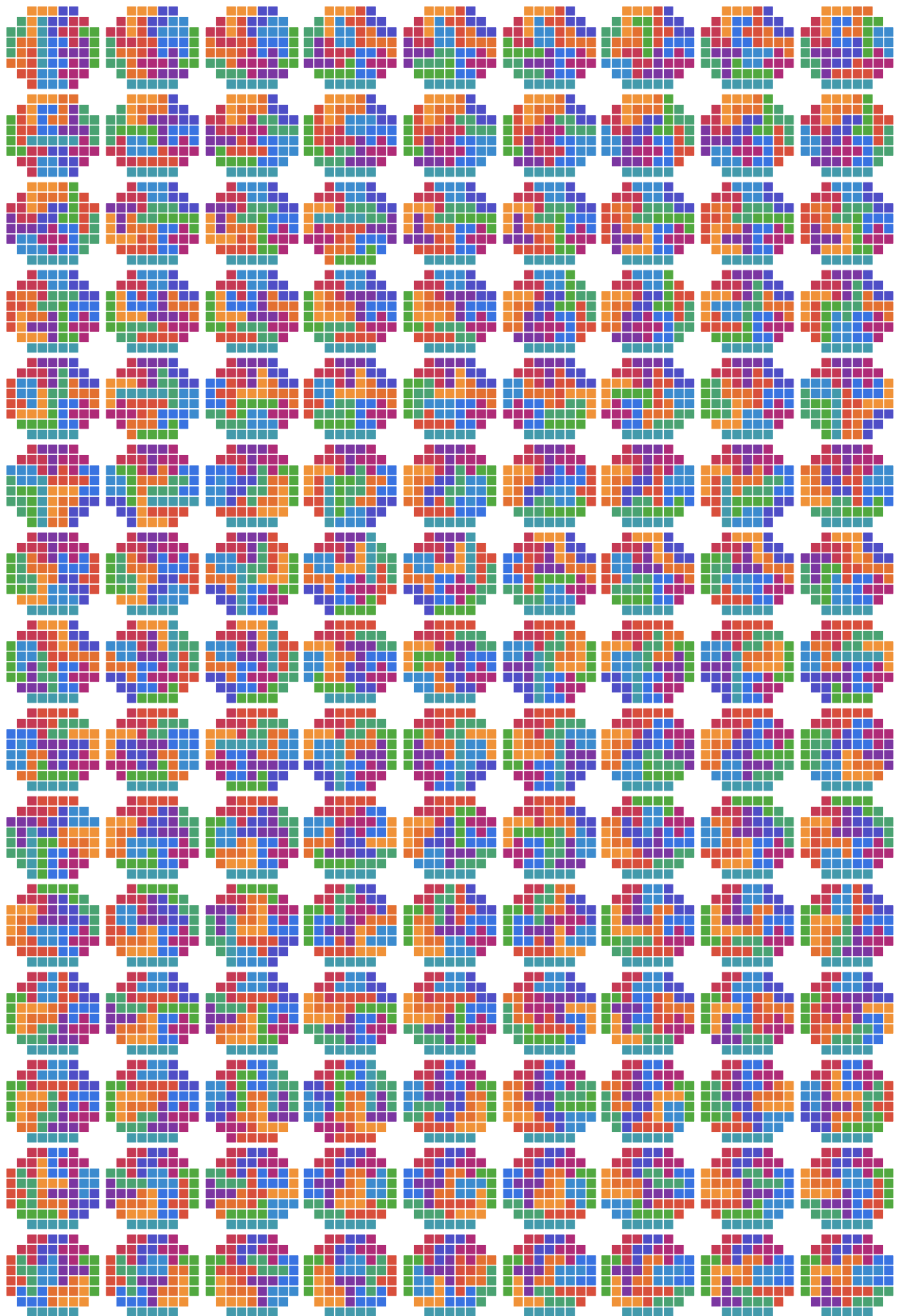


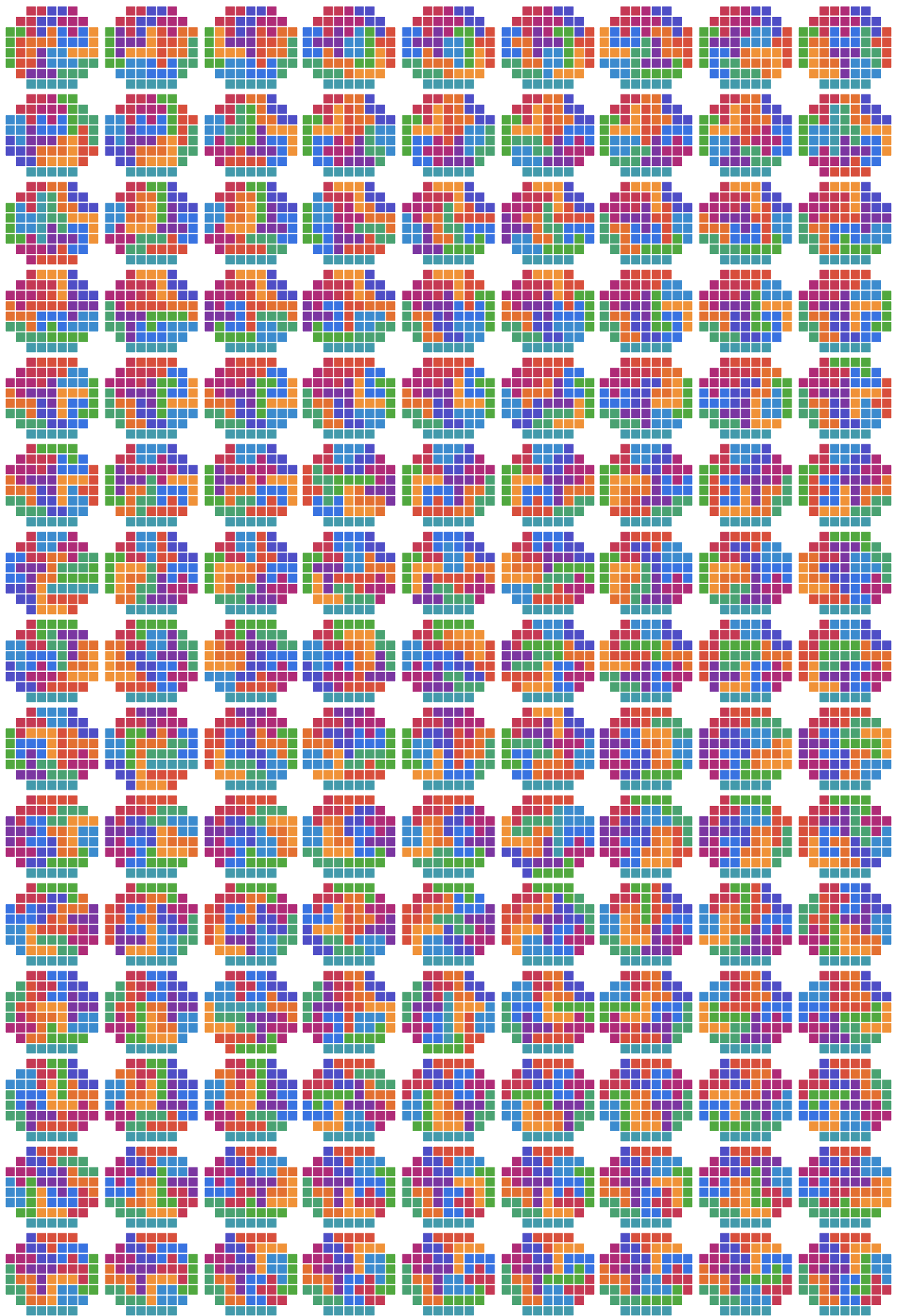


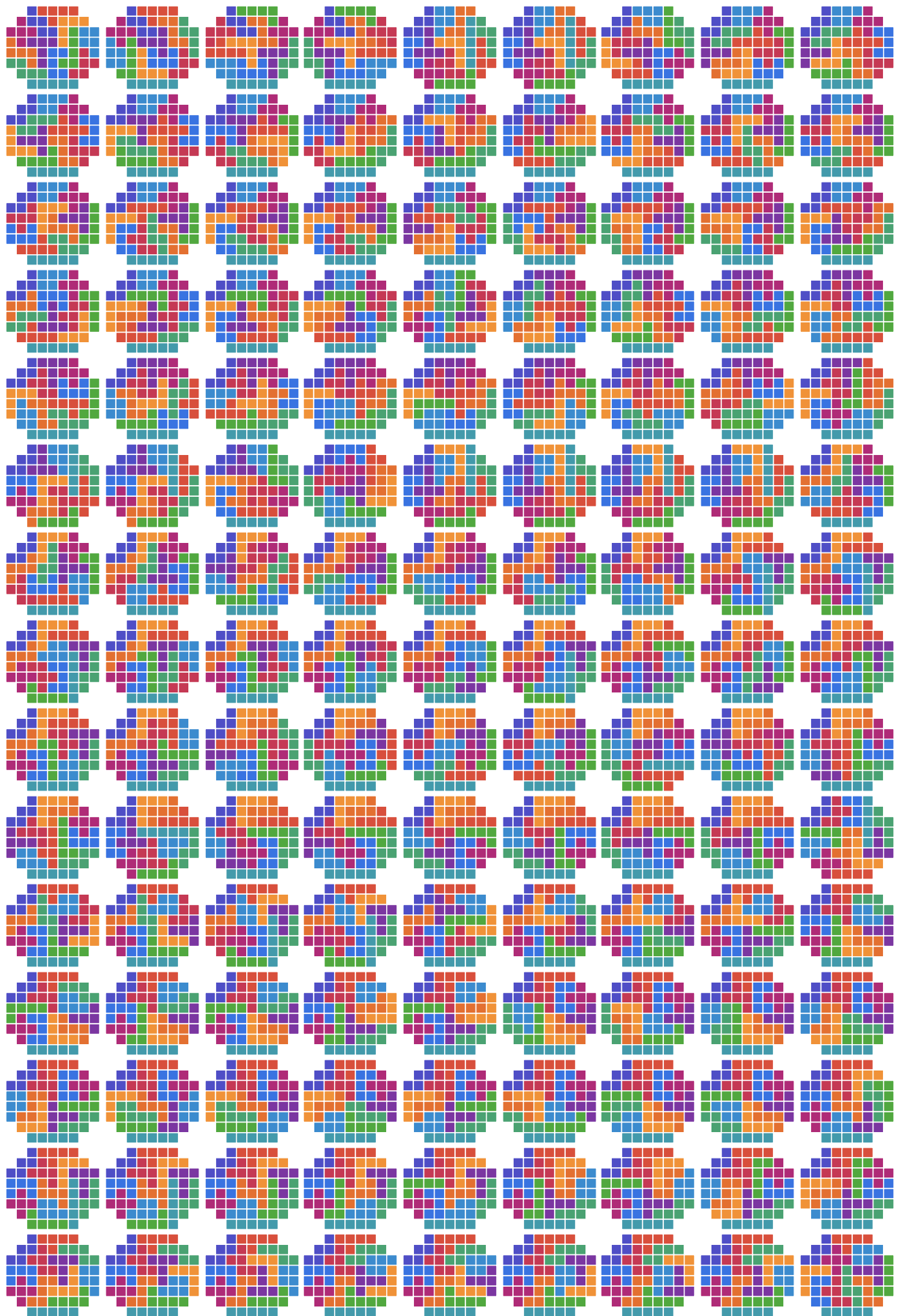


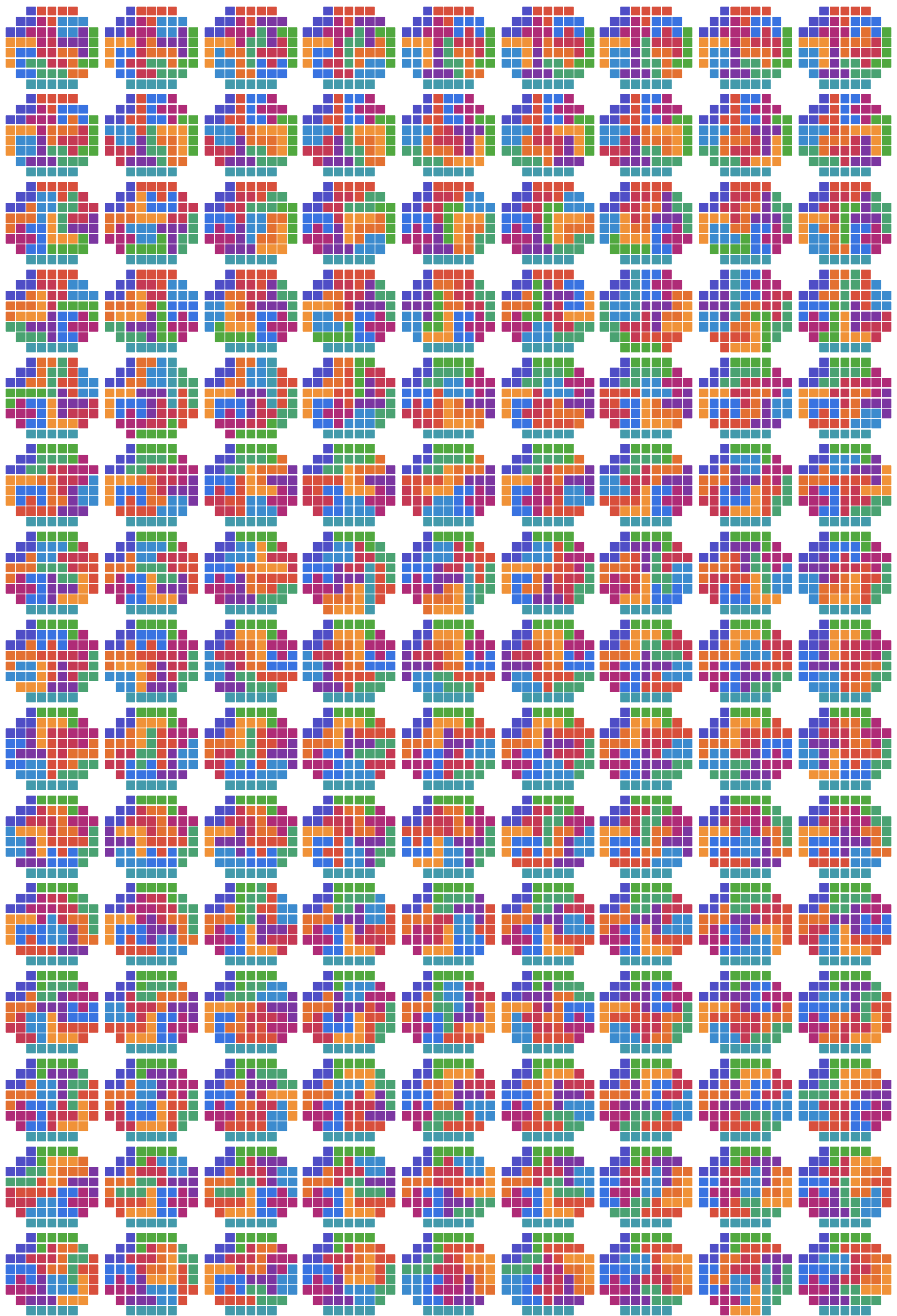


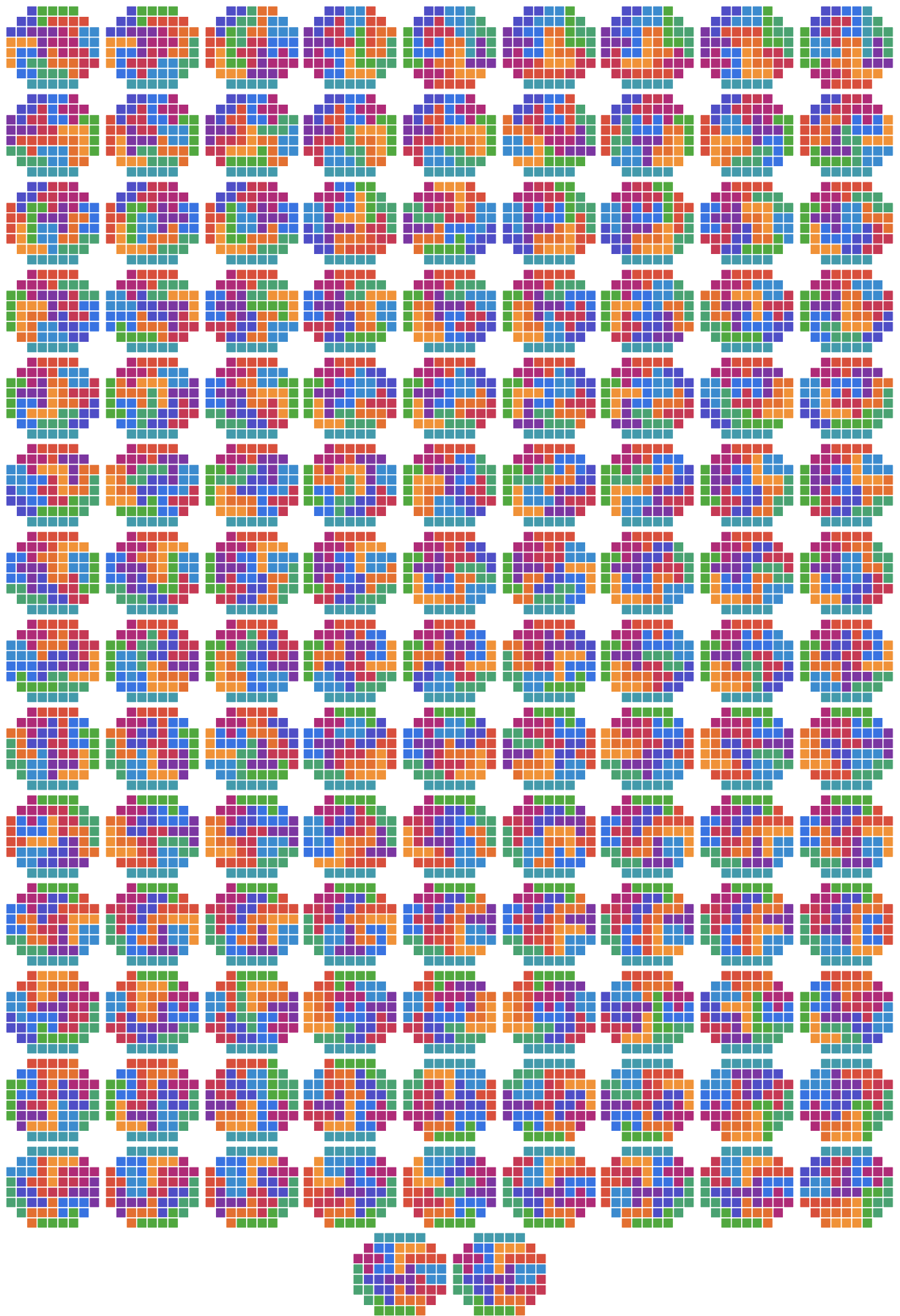


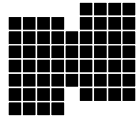






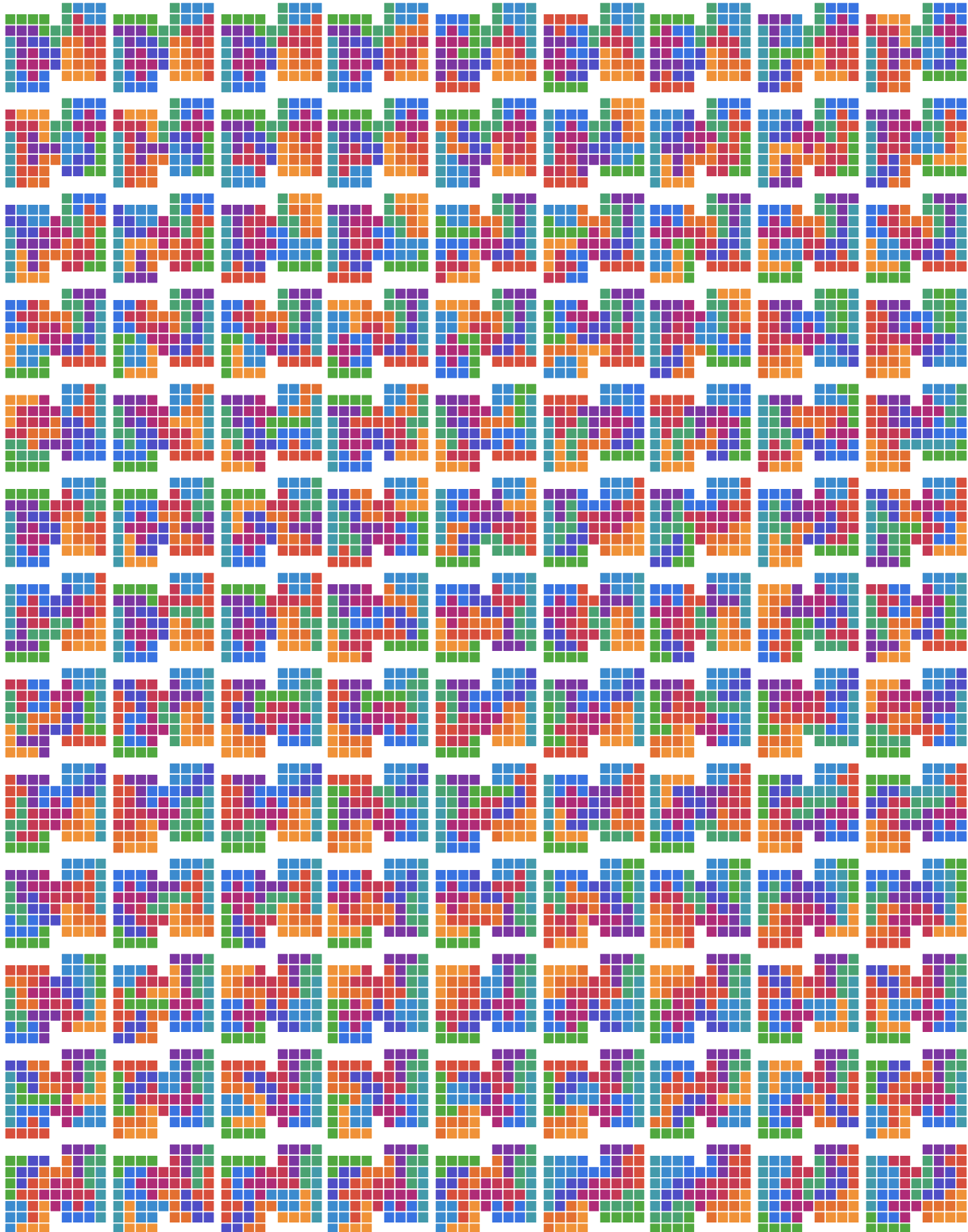


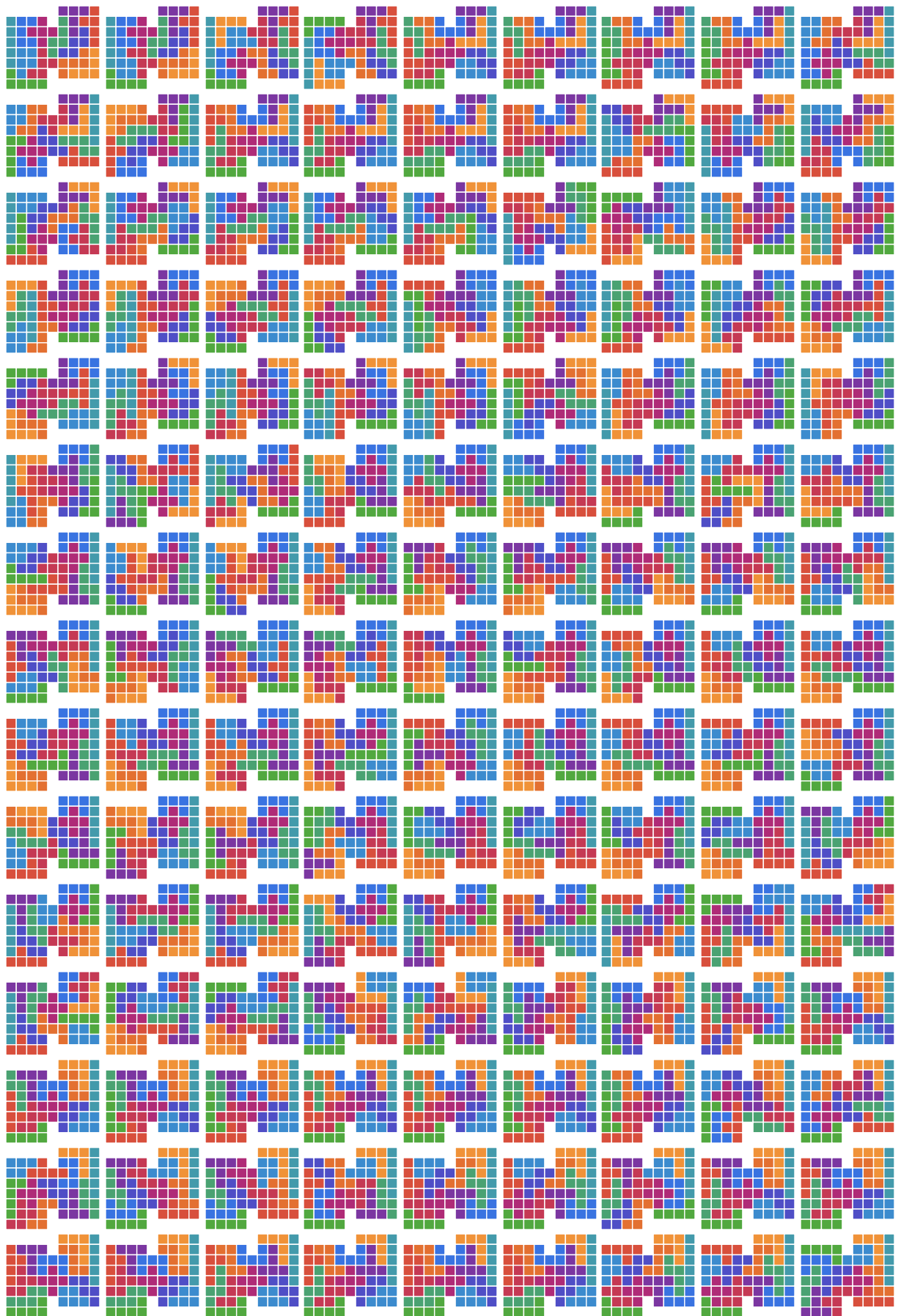


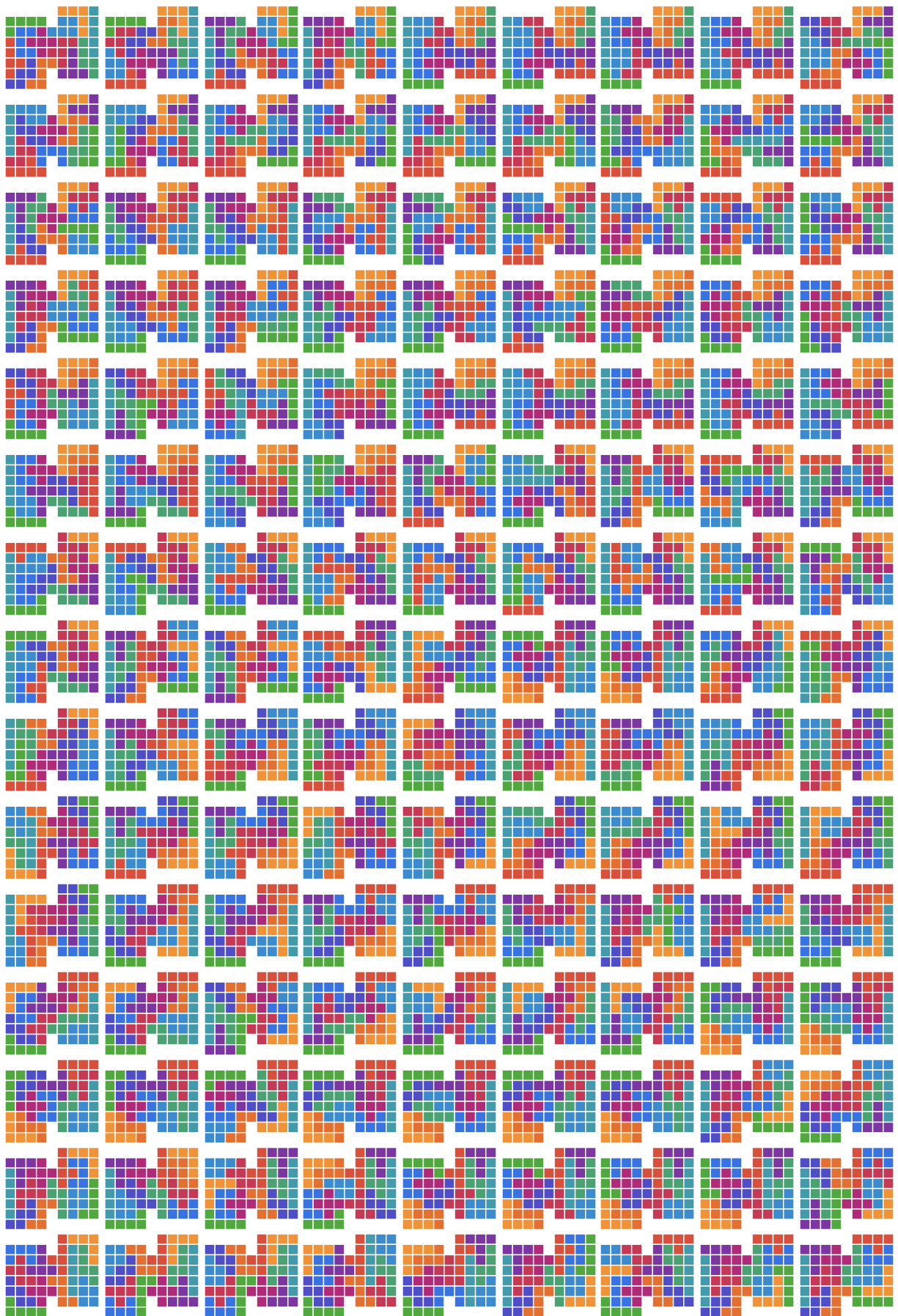


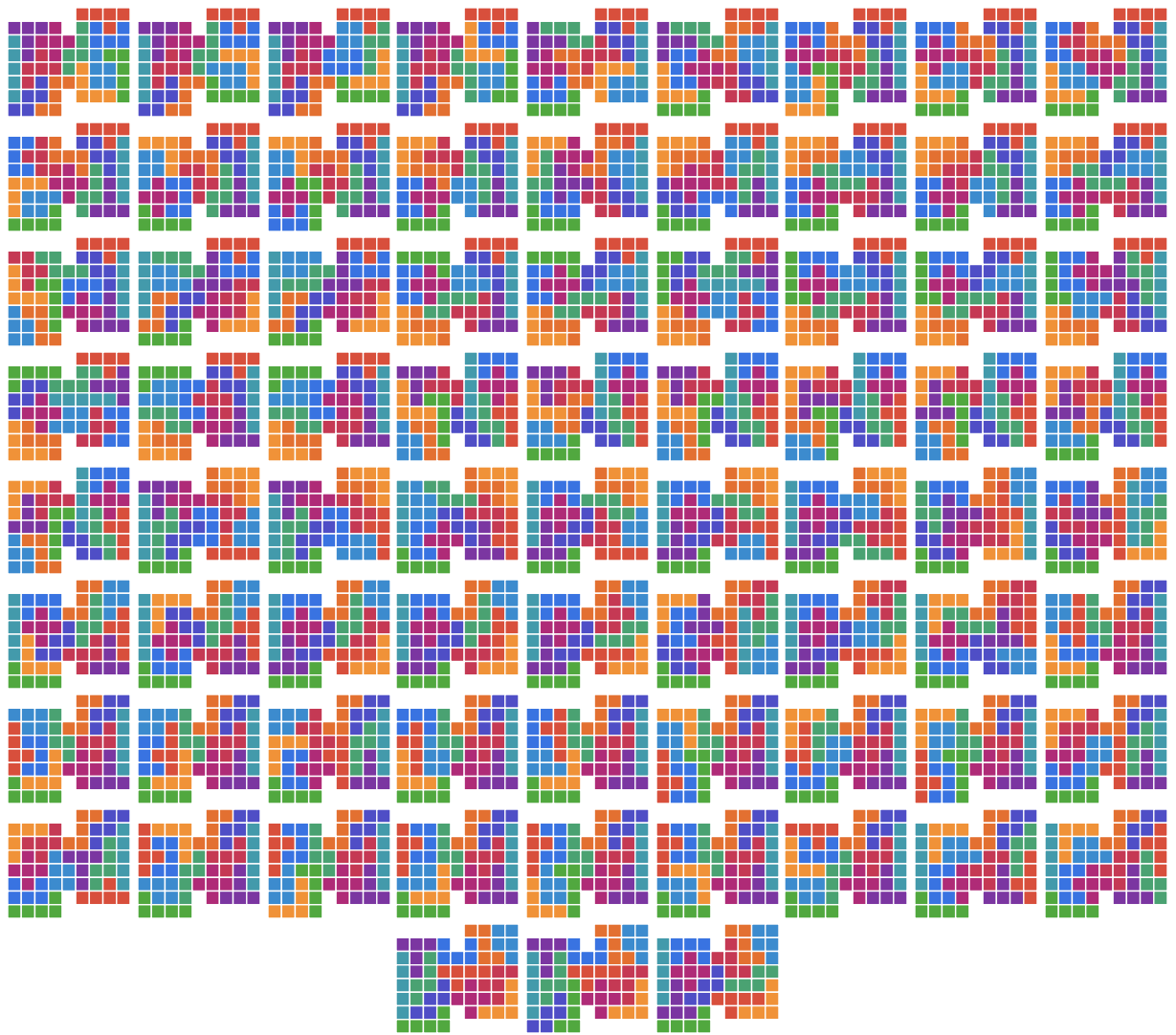
yin-yang1

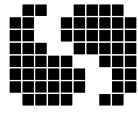
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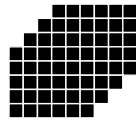






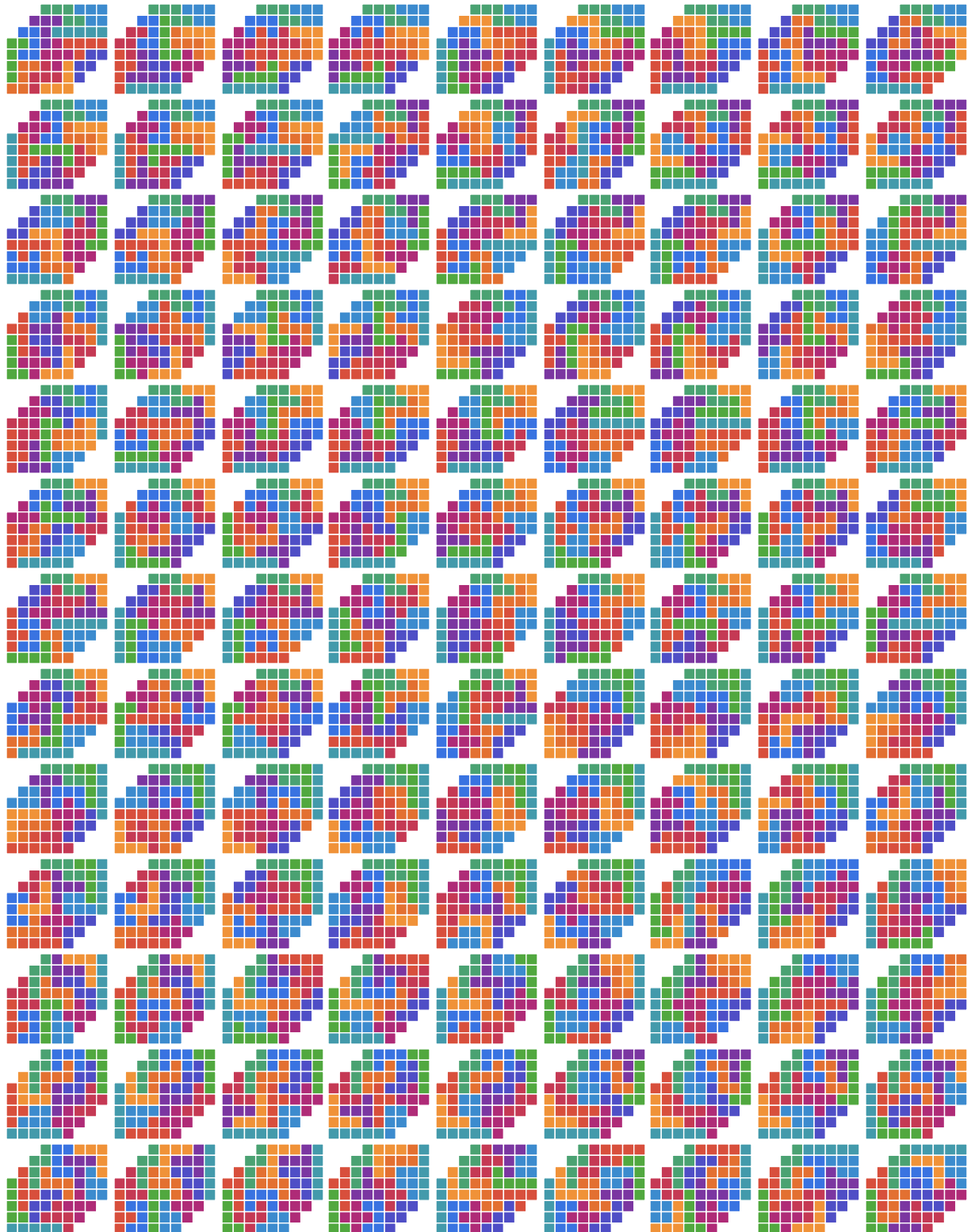
yin-yang-2
3 Solutions

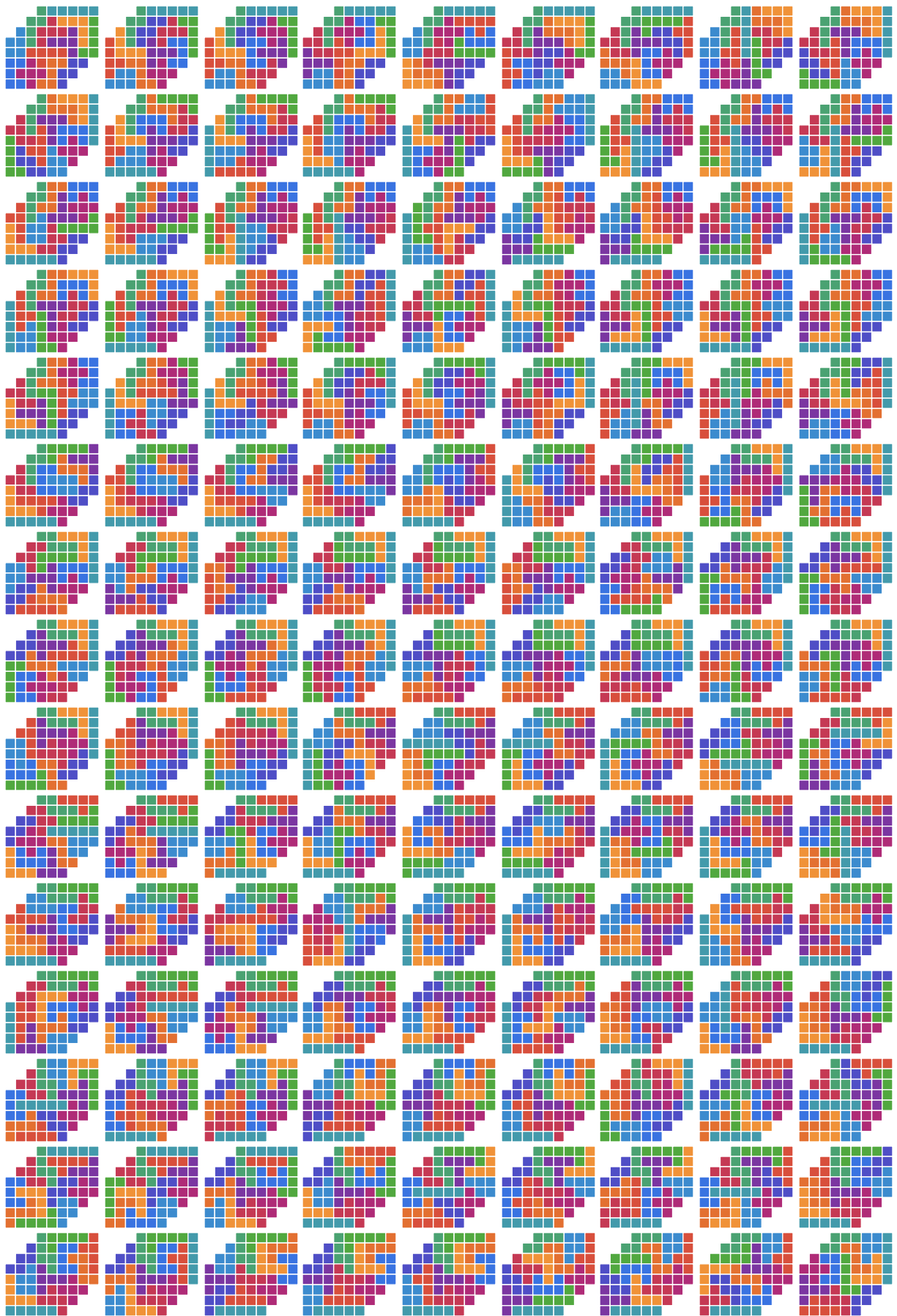


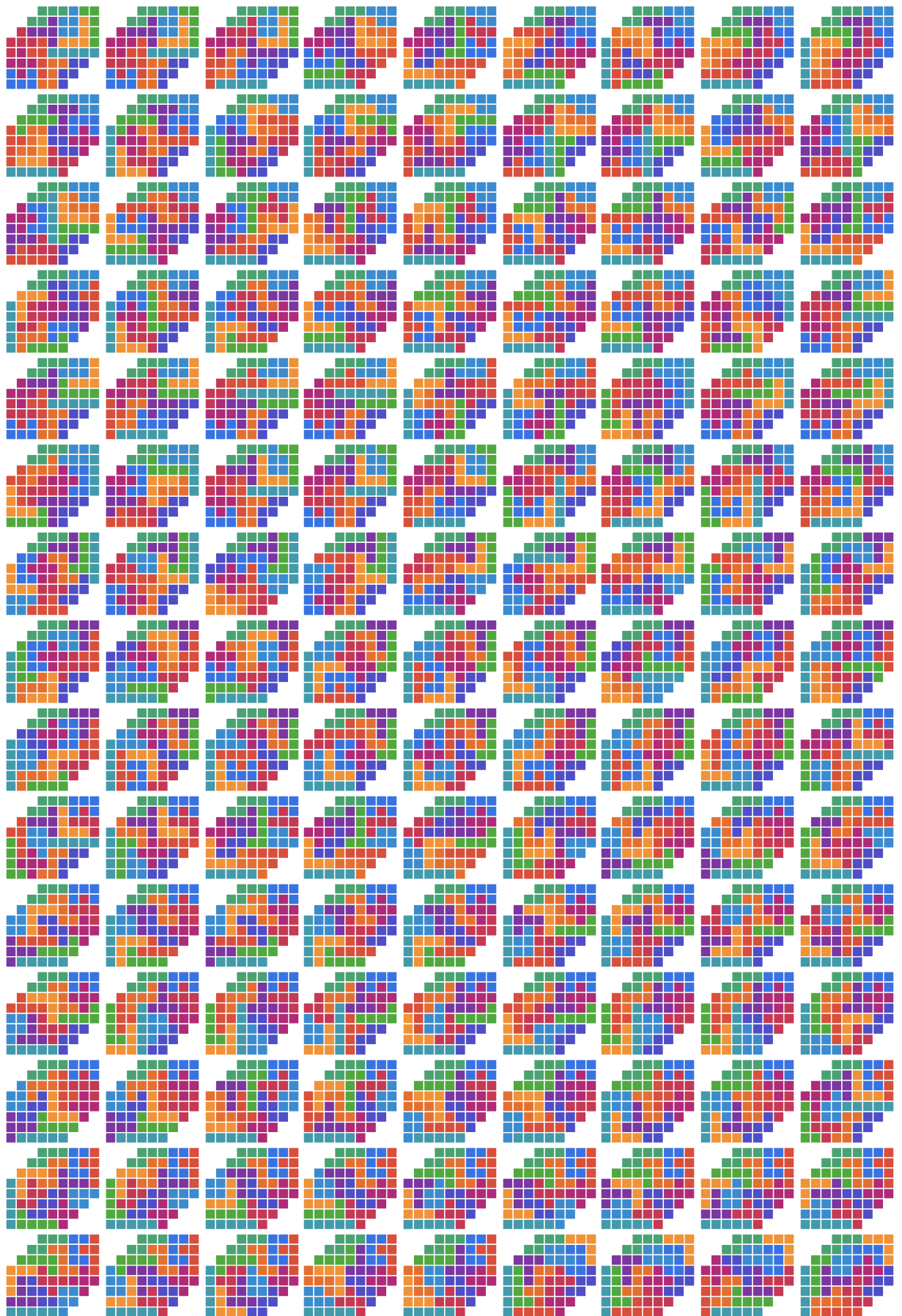


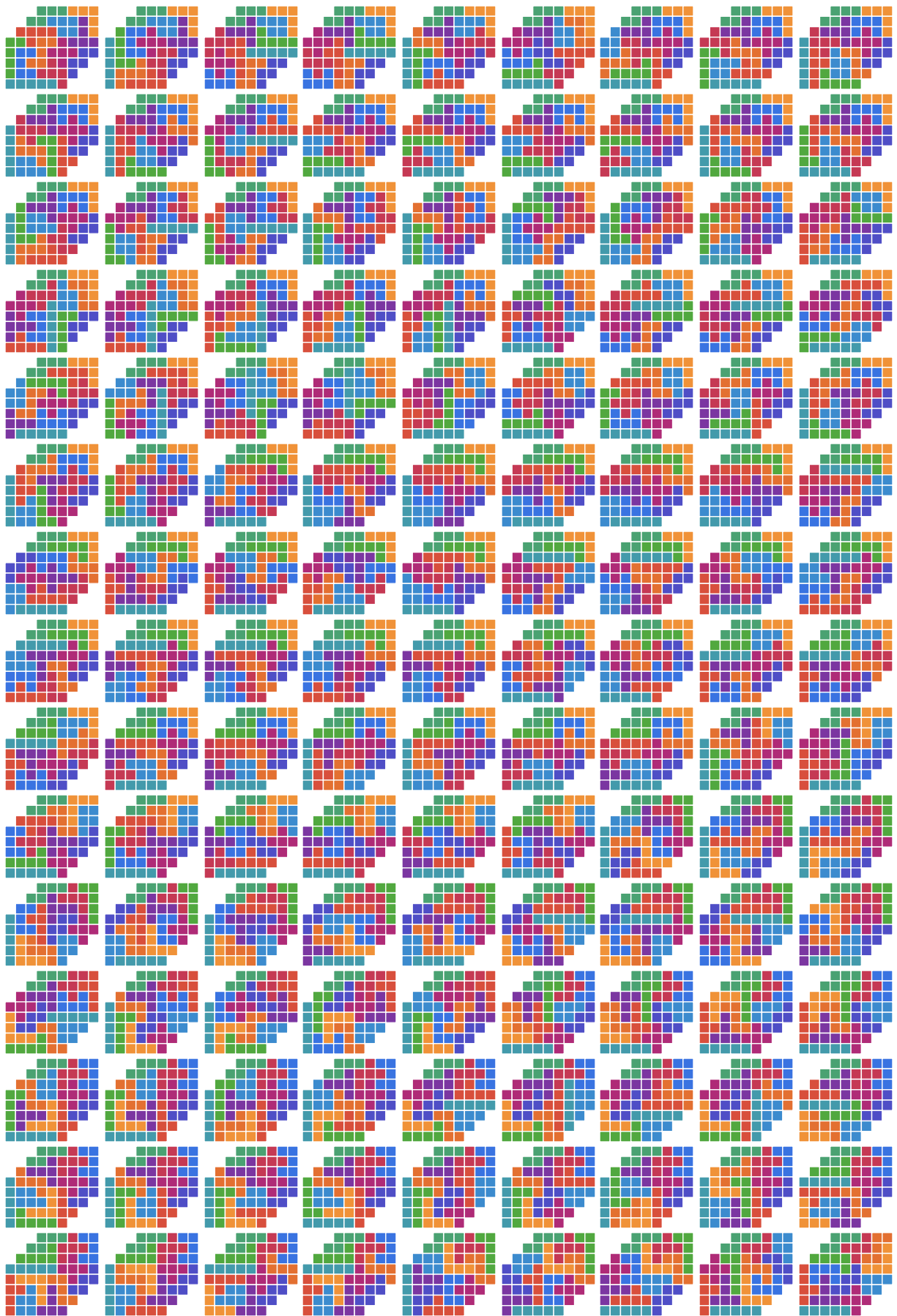
frame2

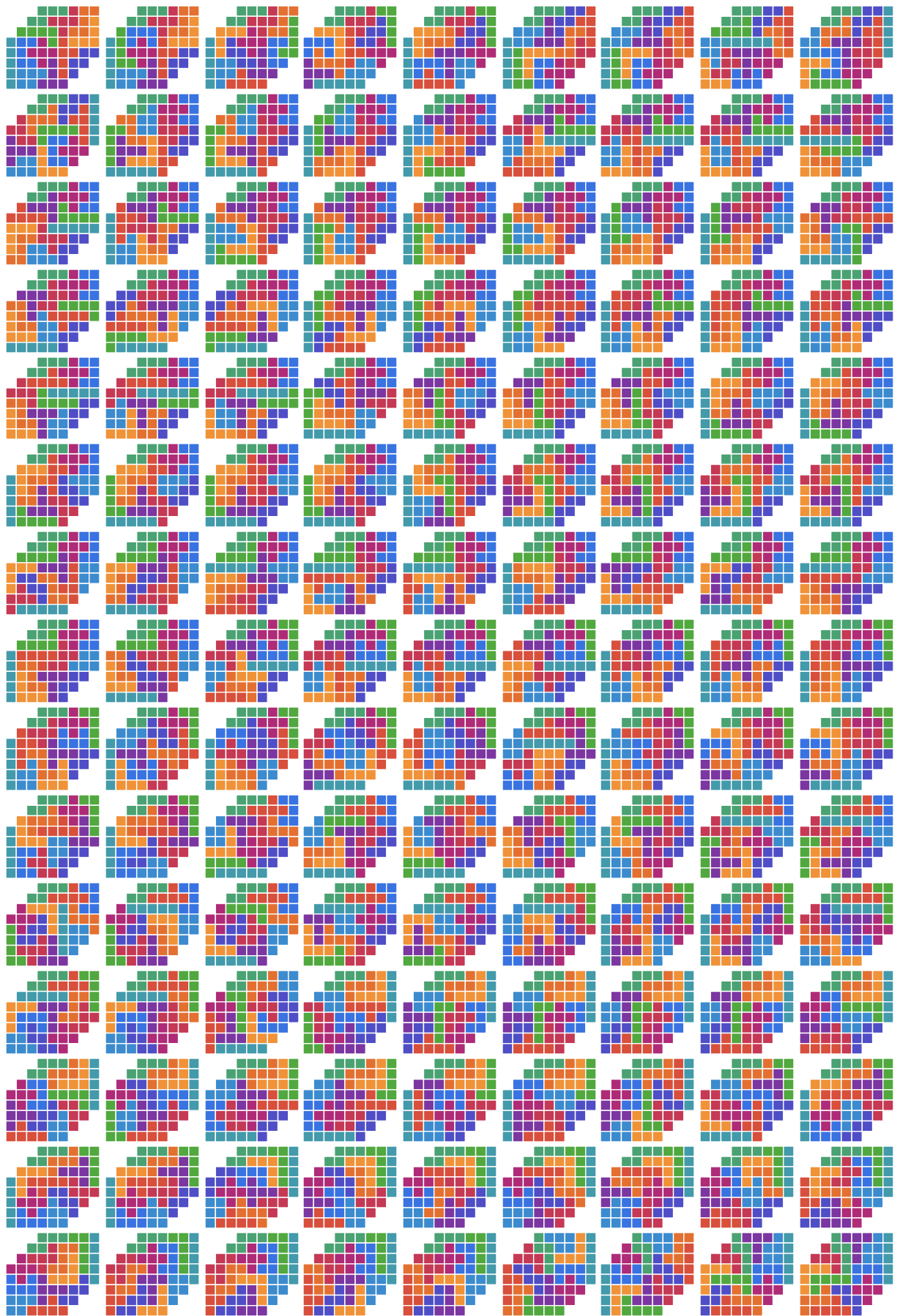
4,292 Solutions

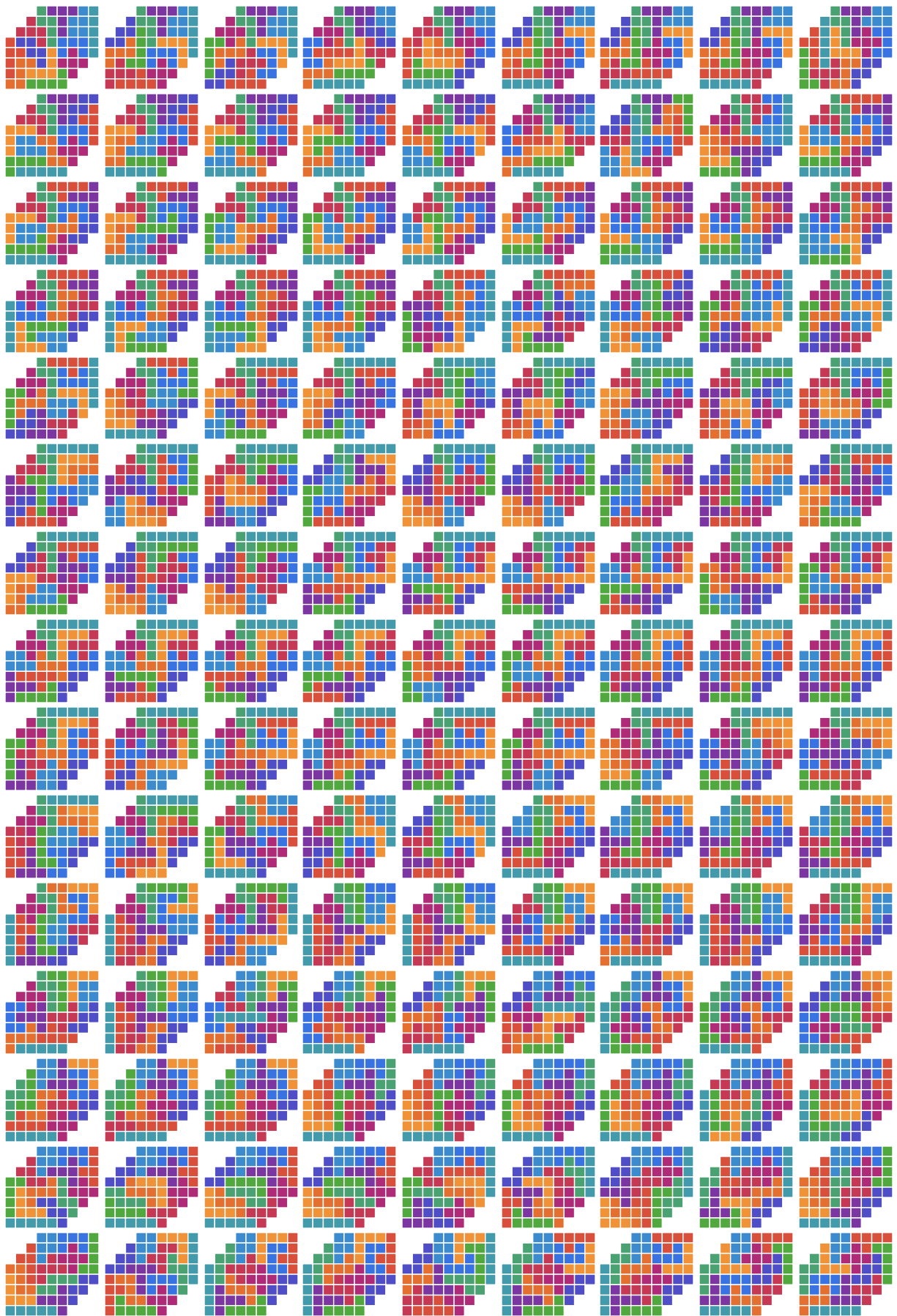


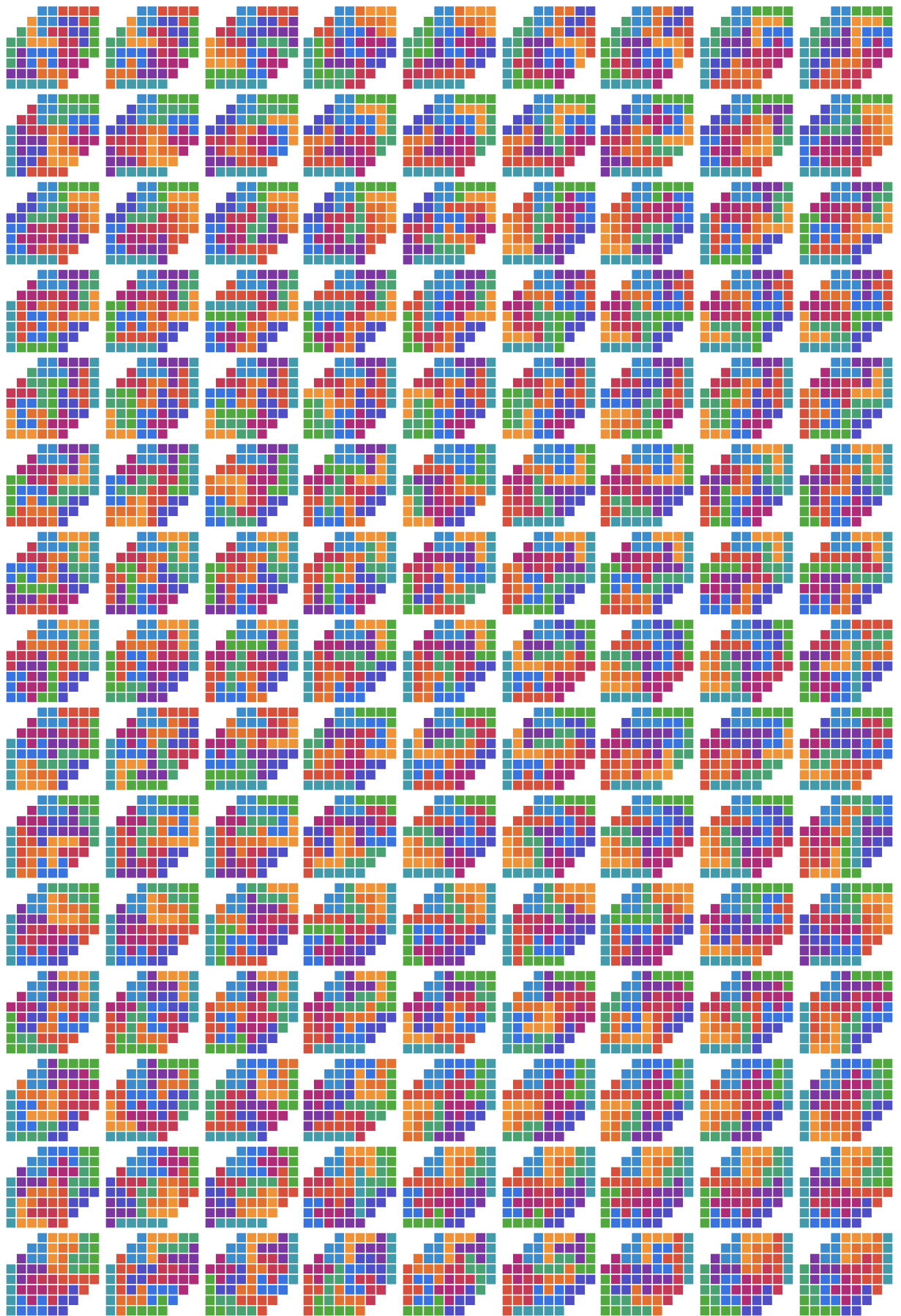


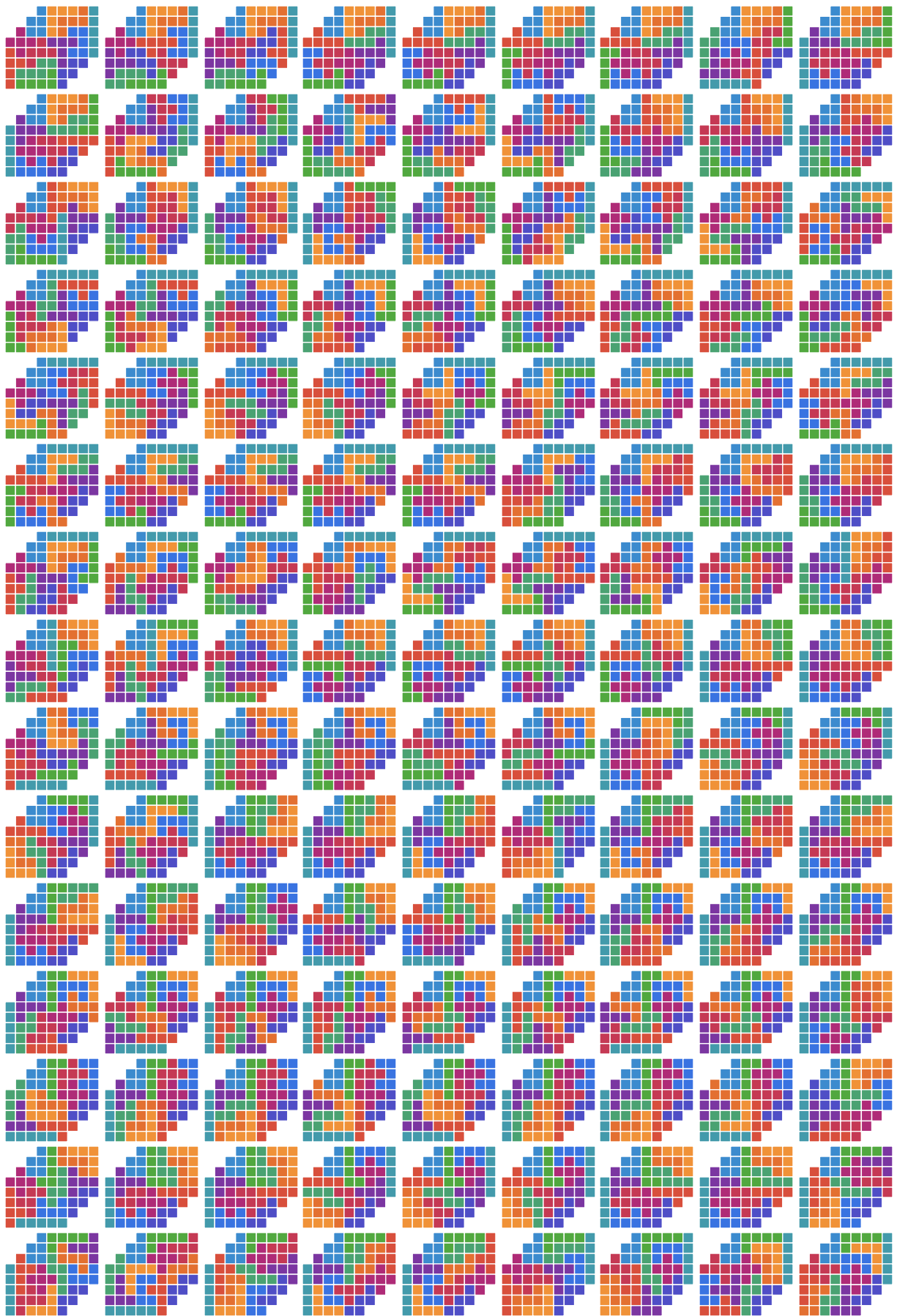


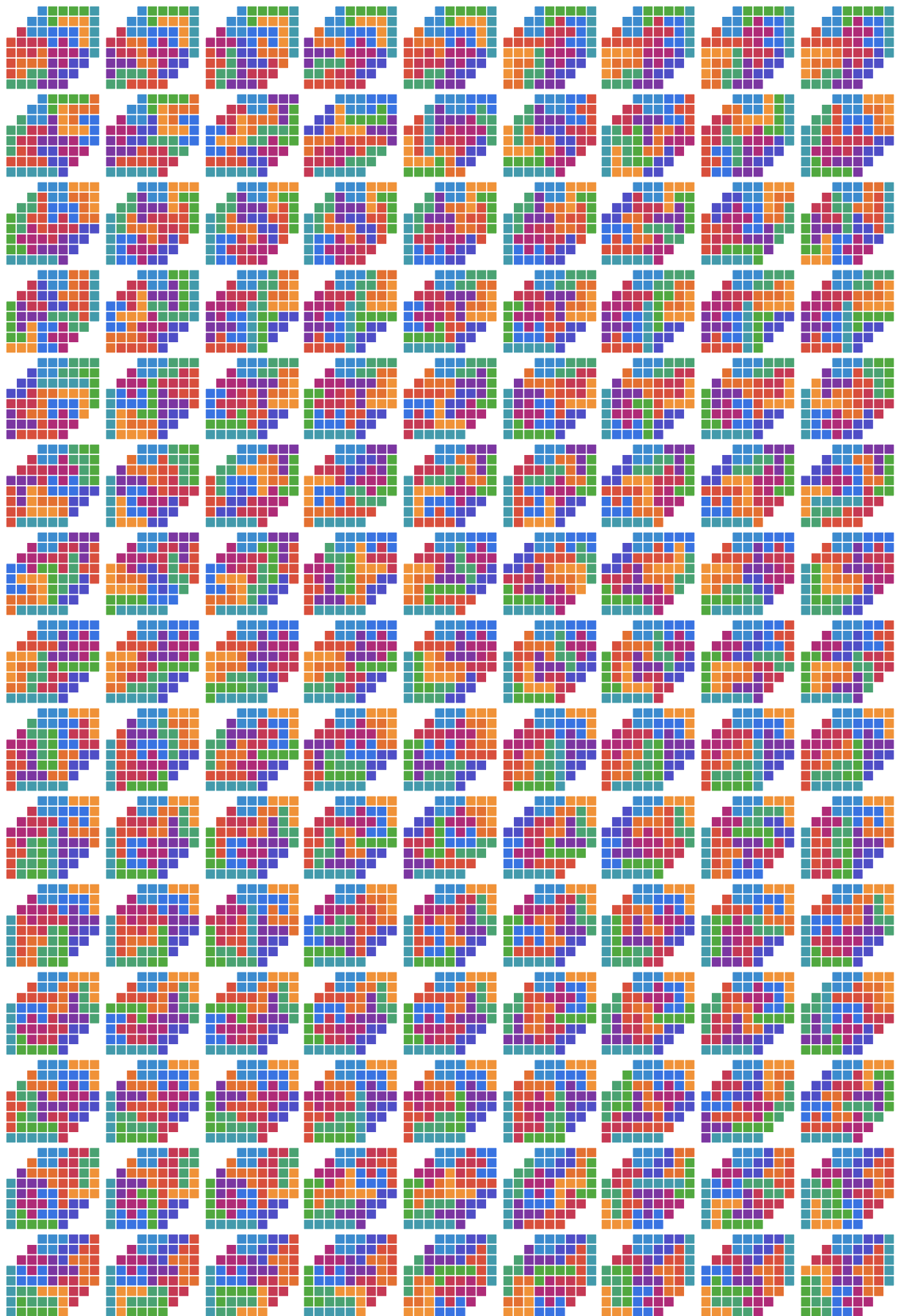


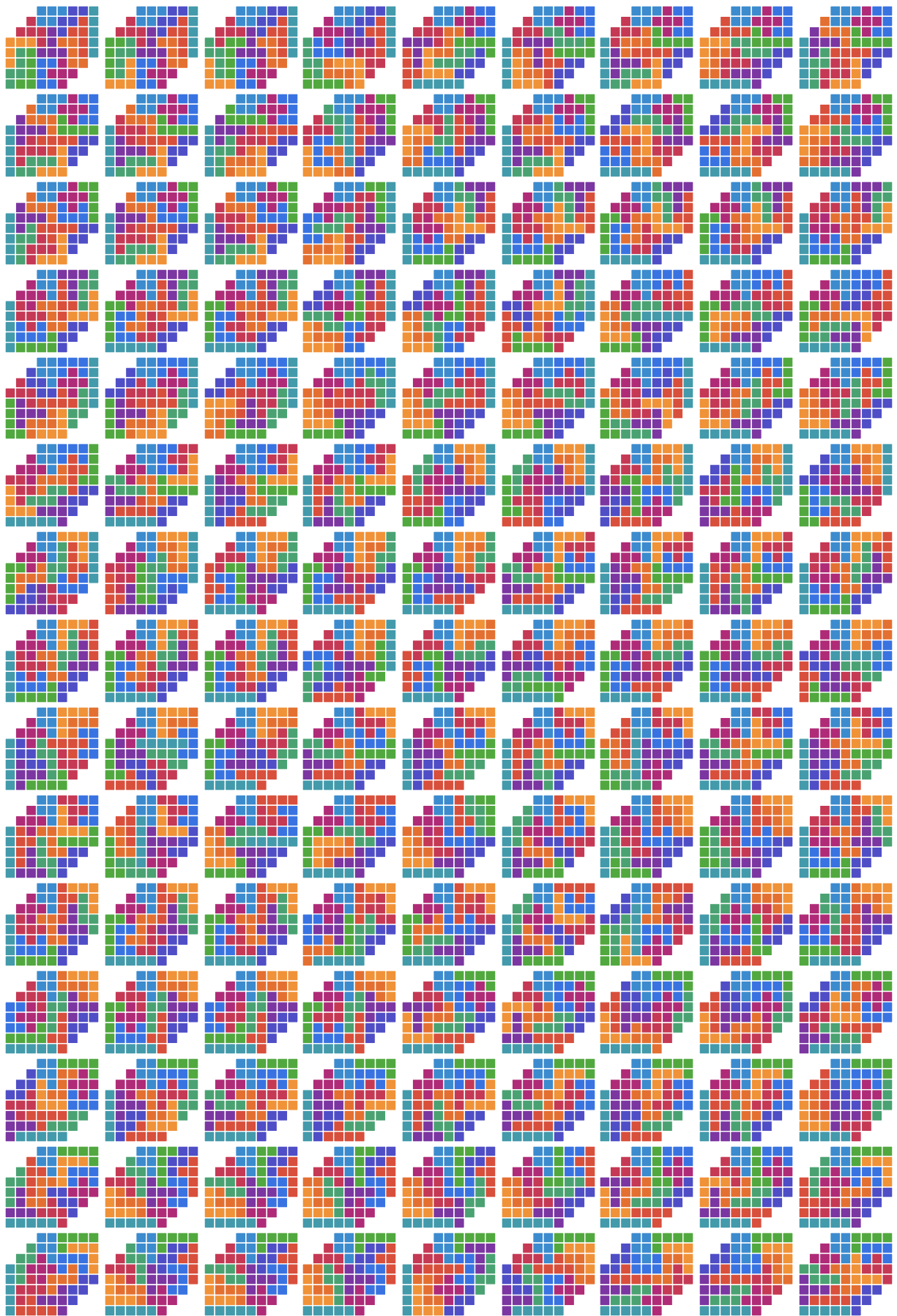


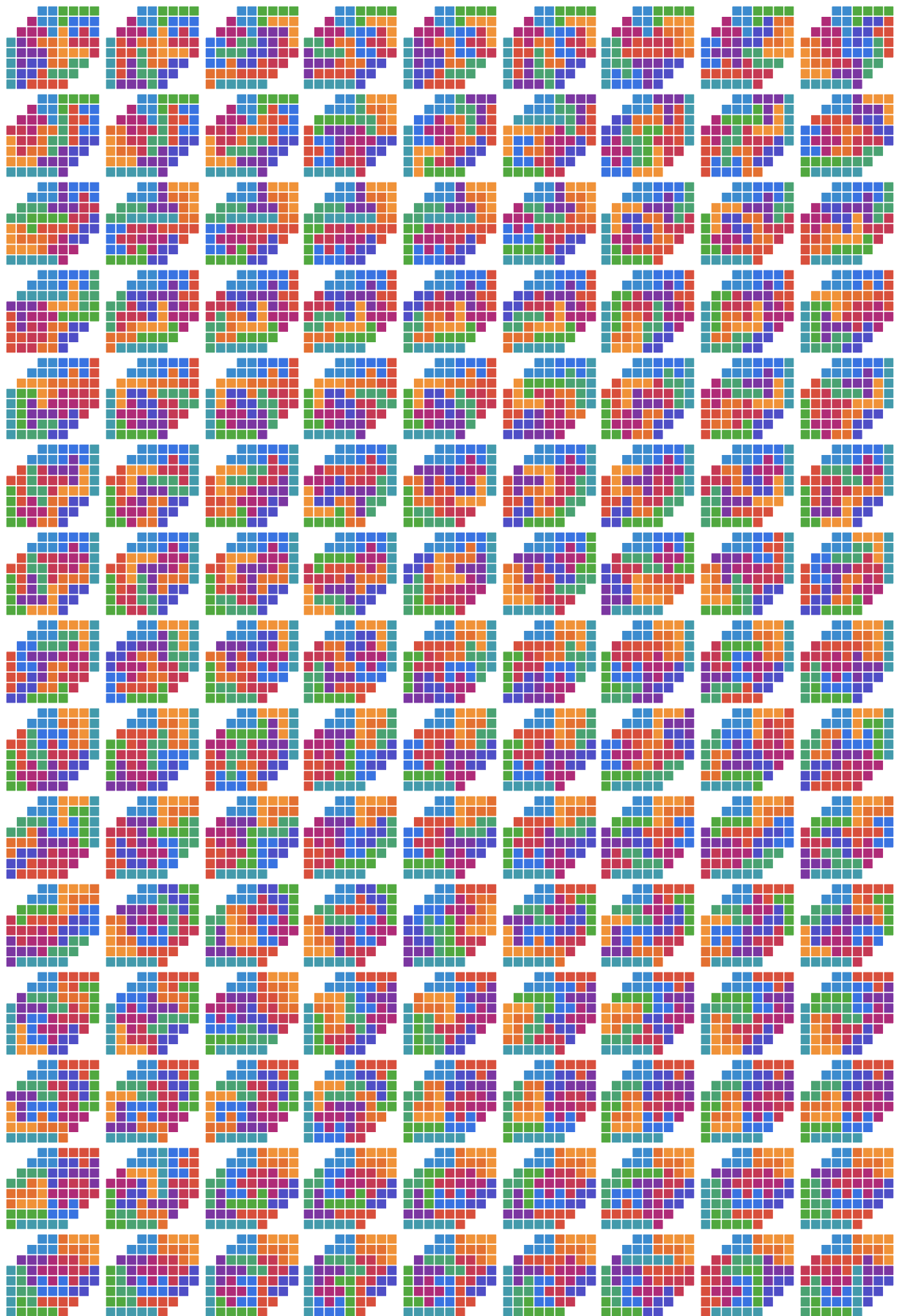


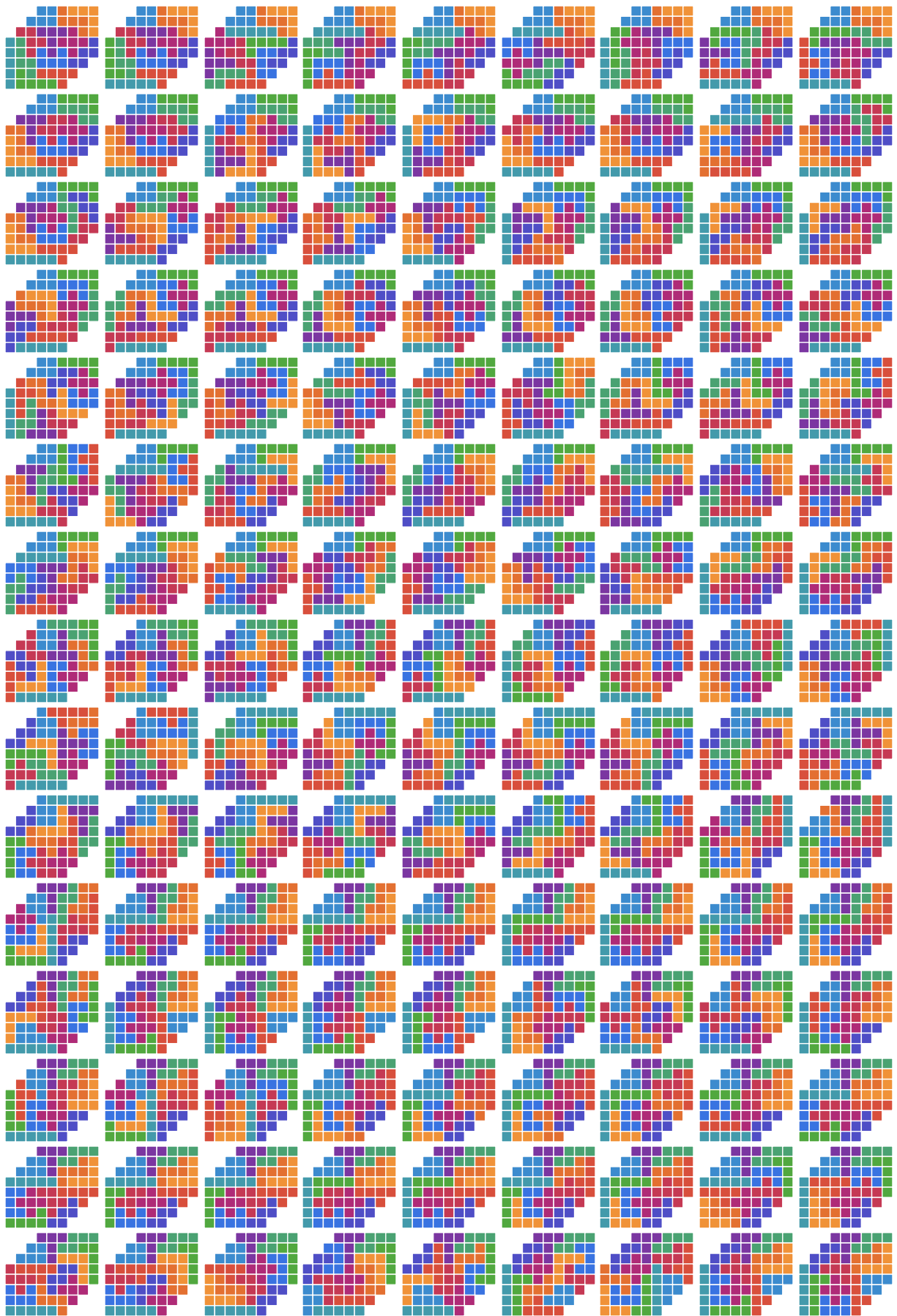


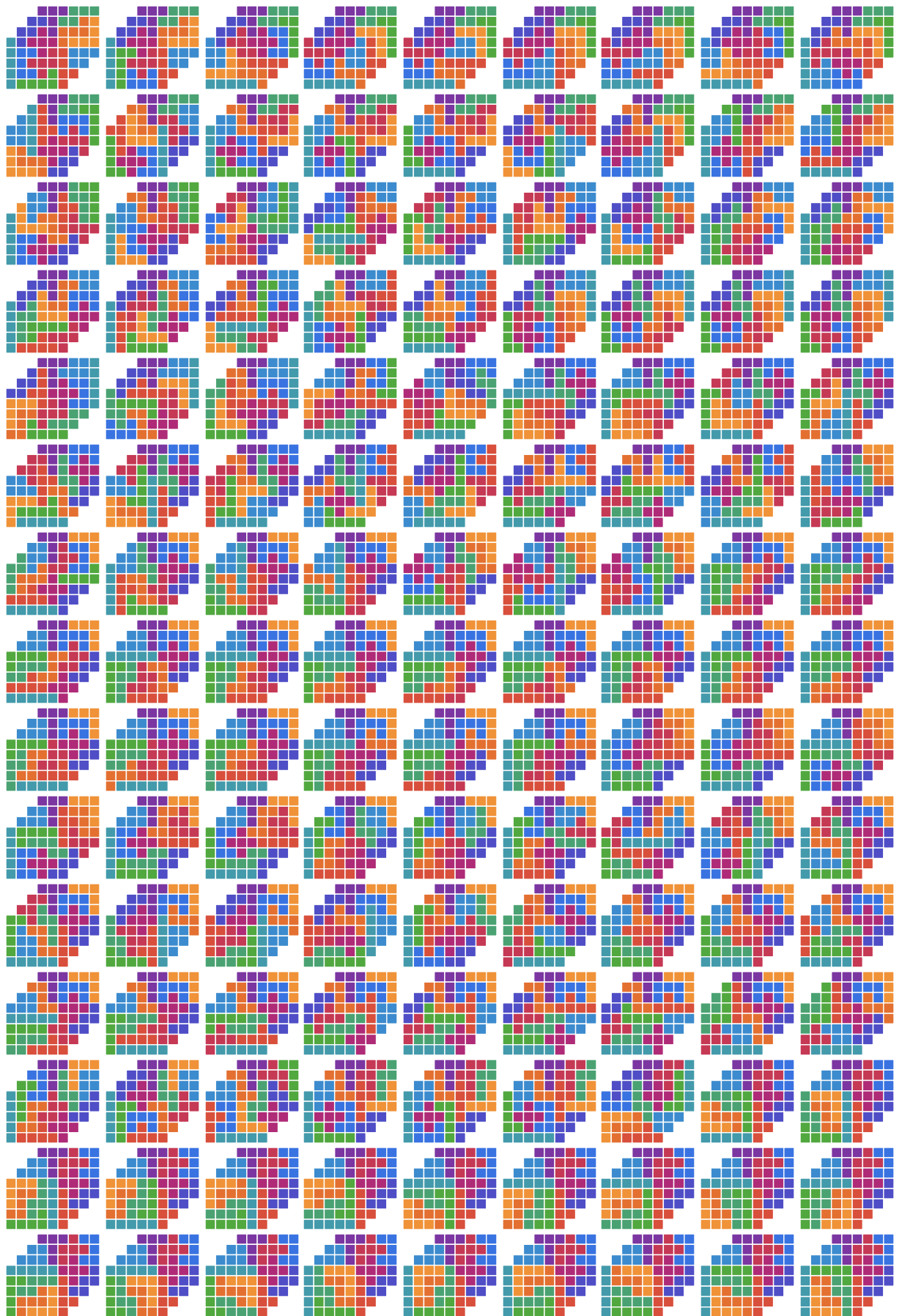


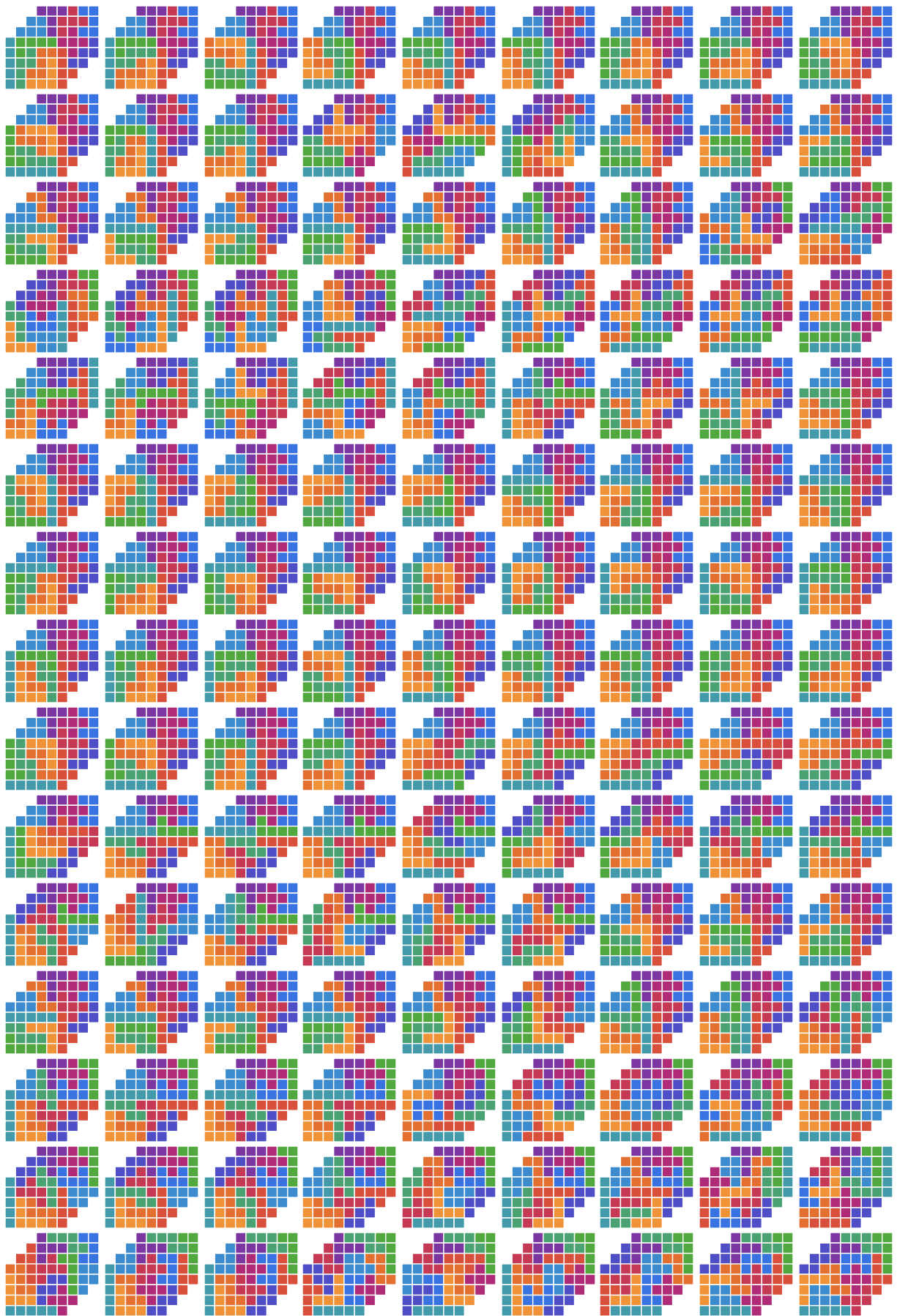


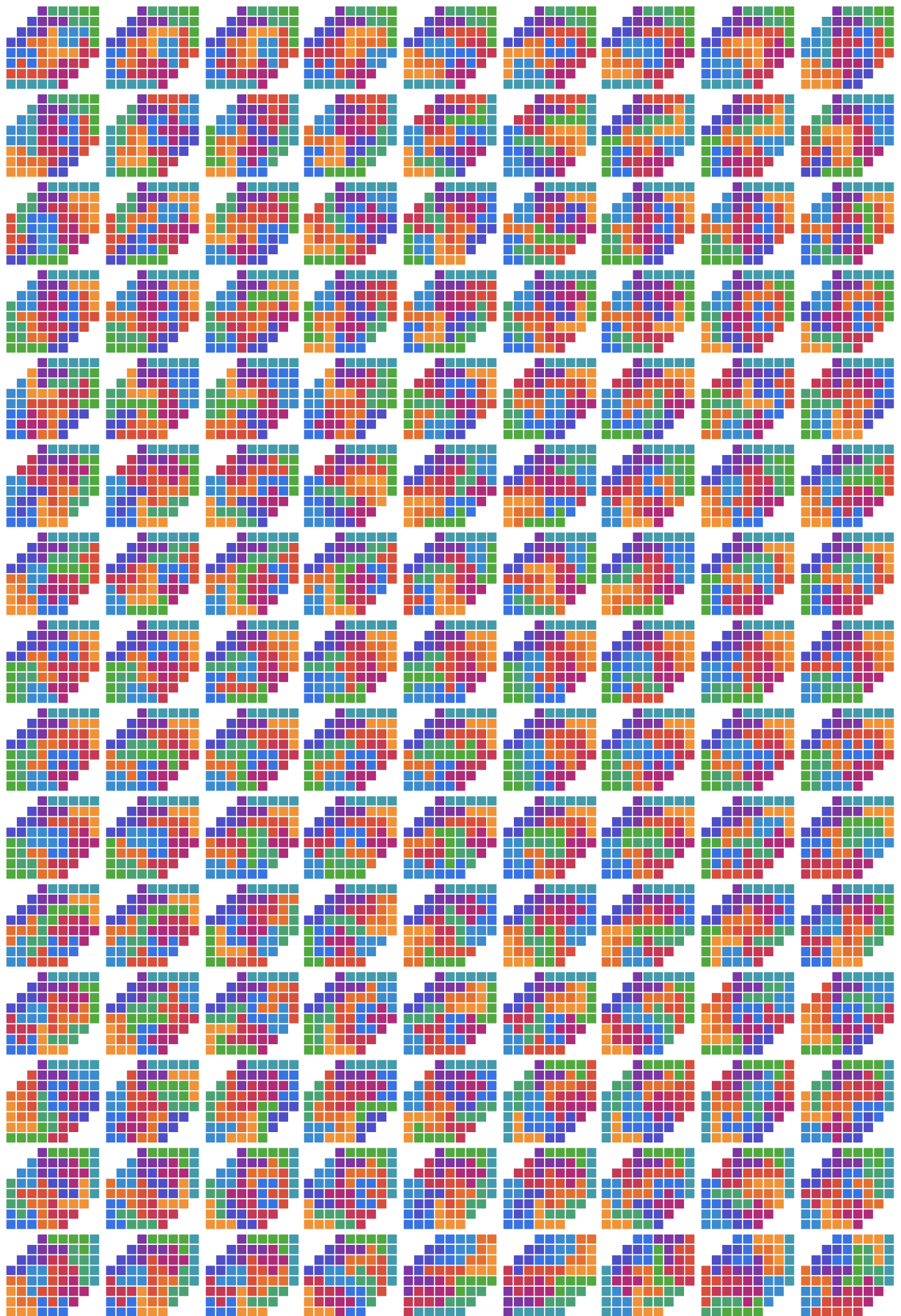


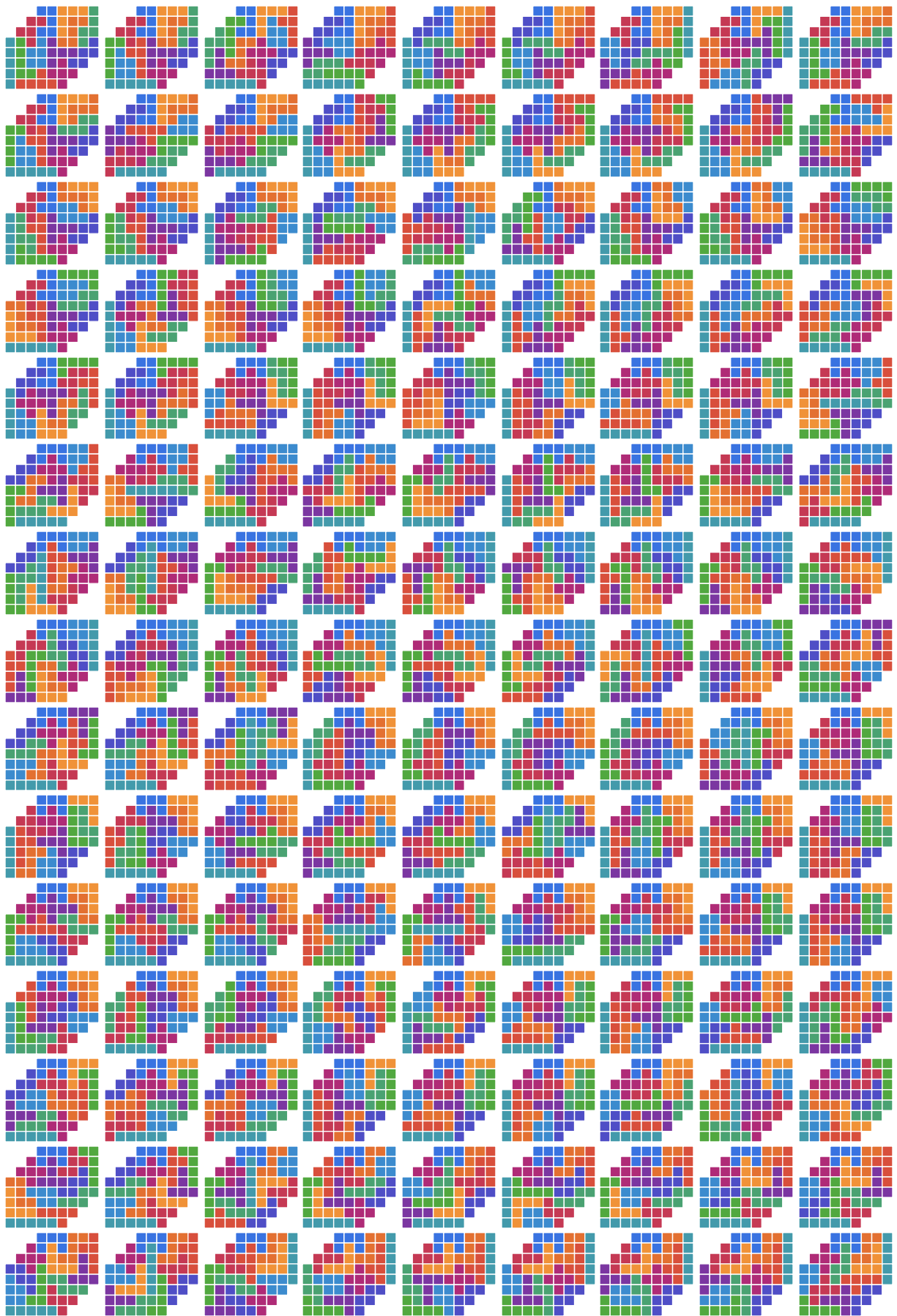


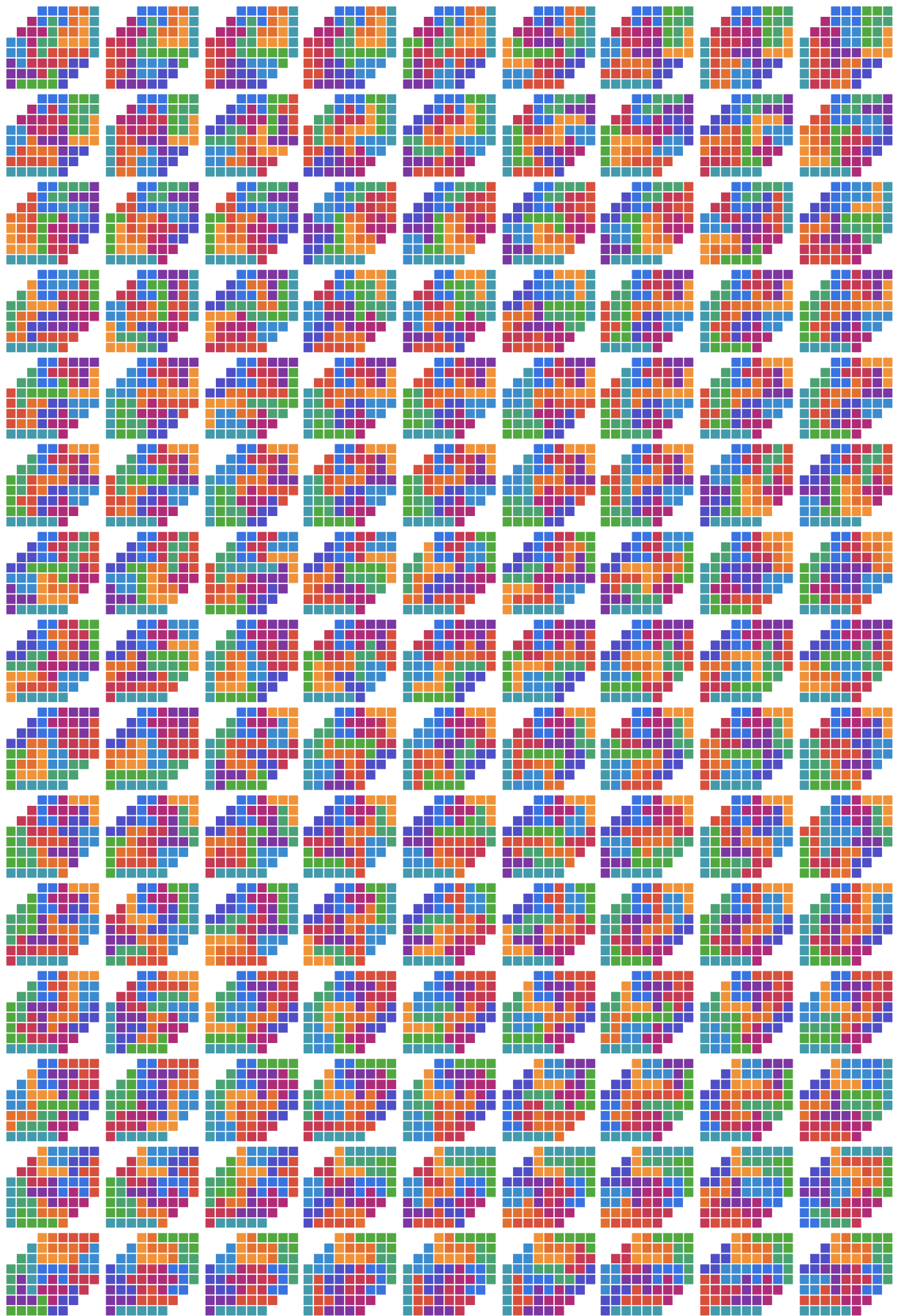


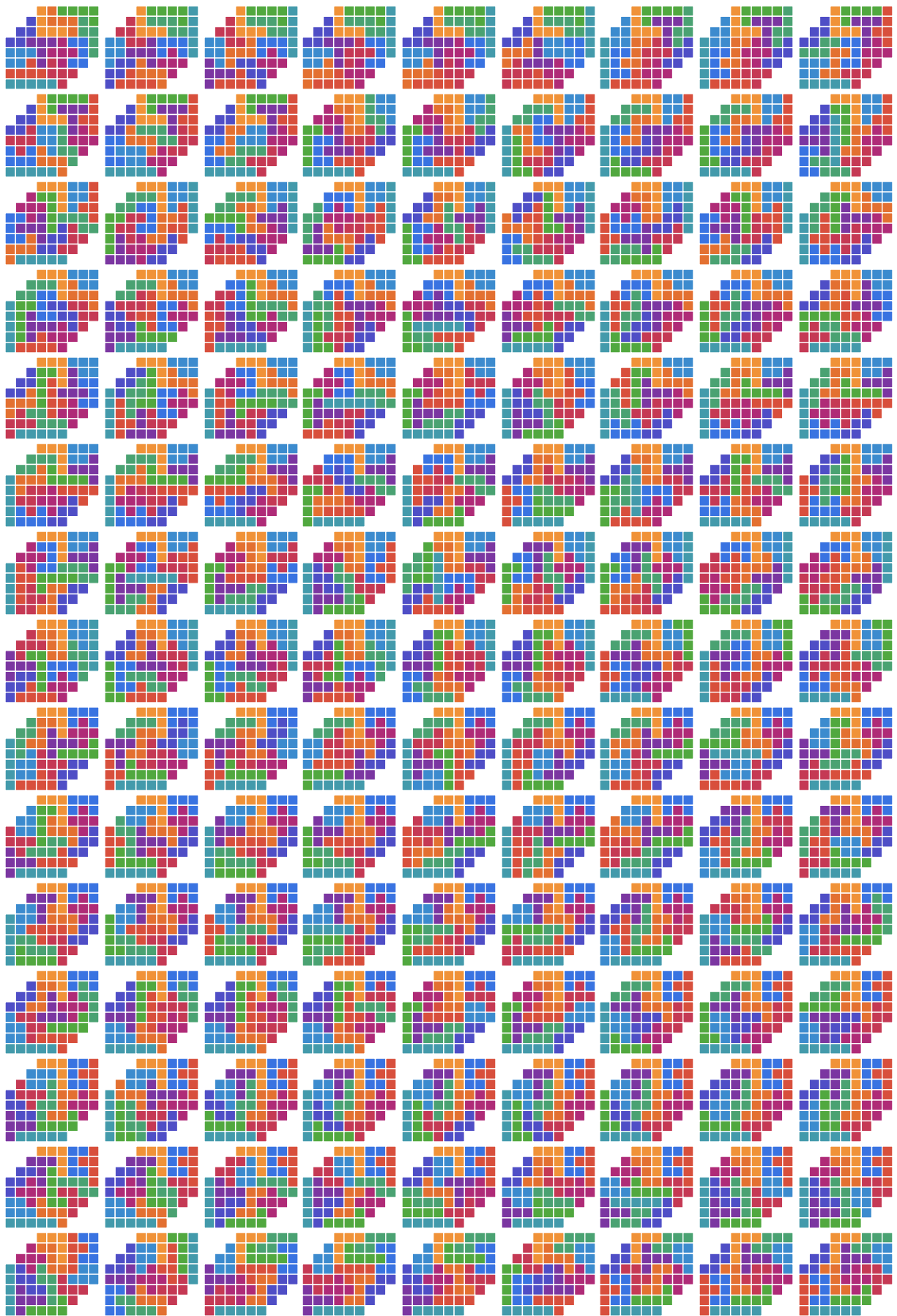


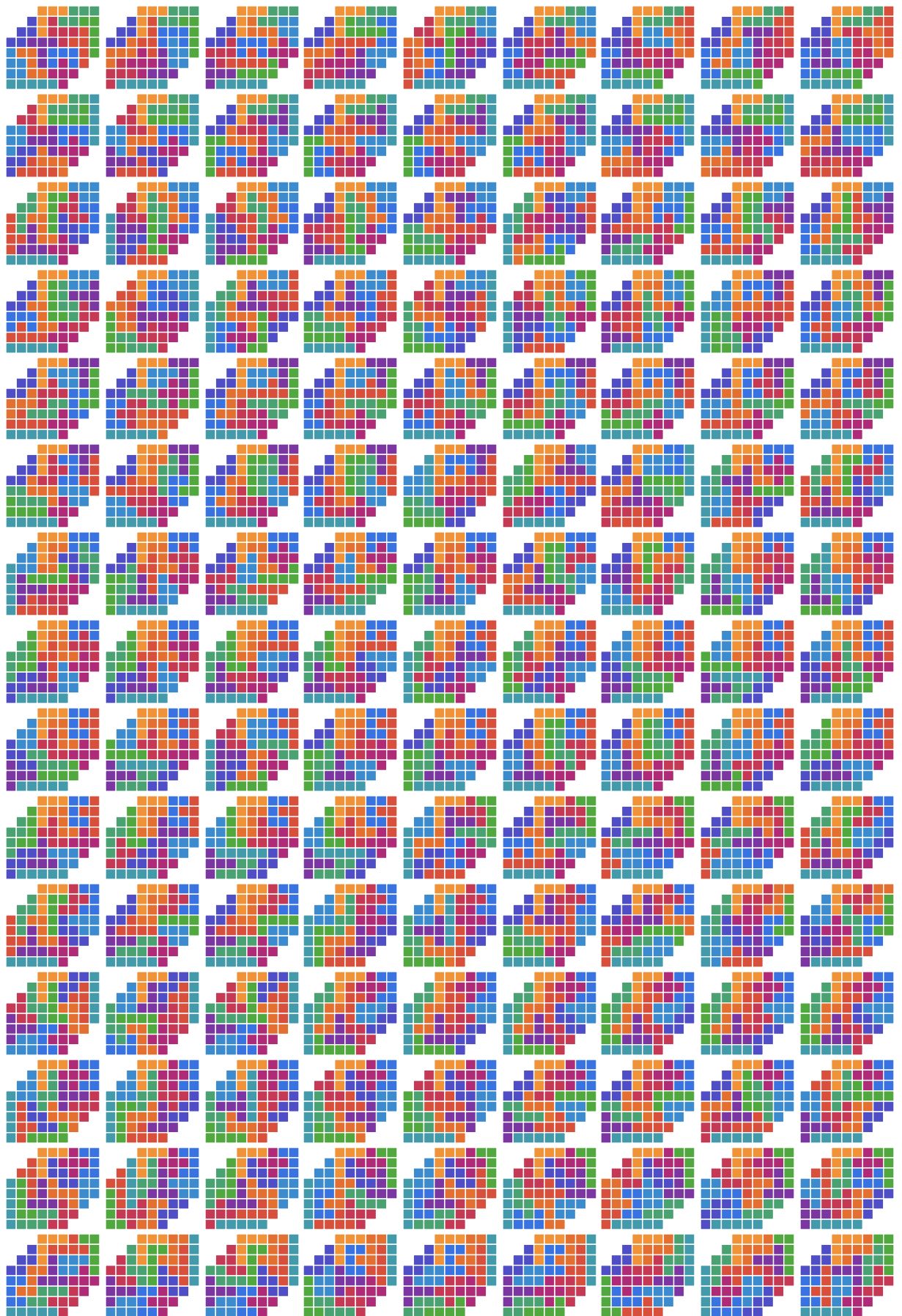


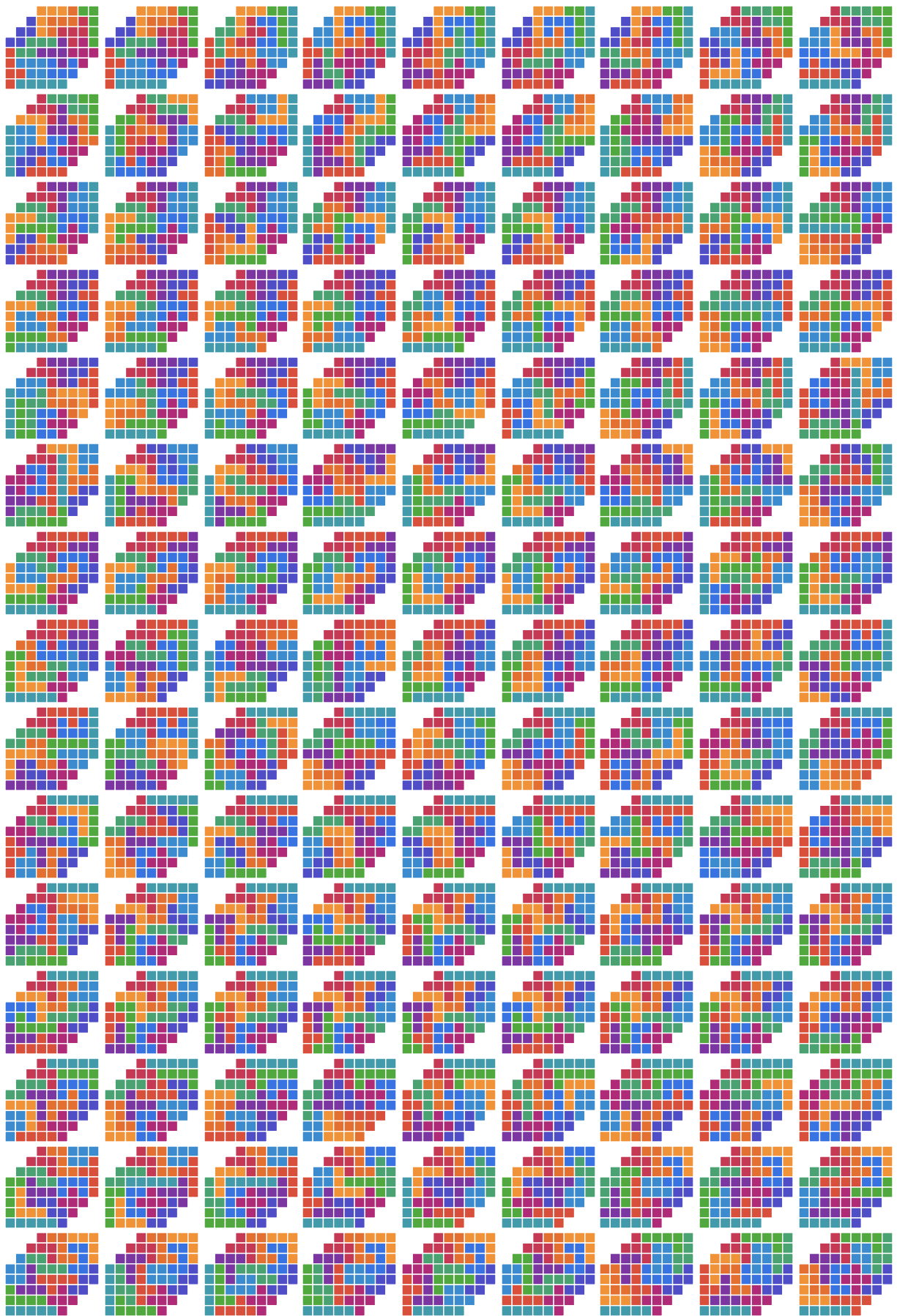


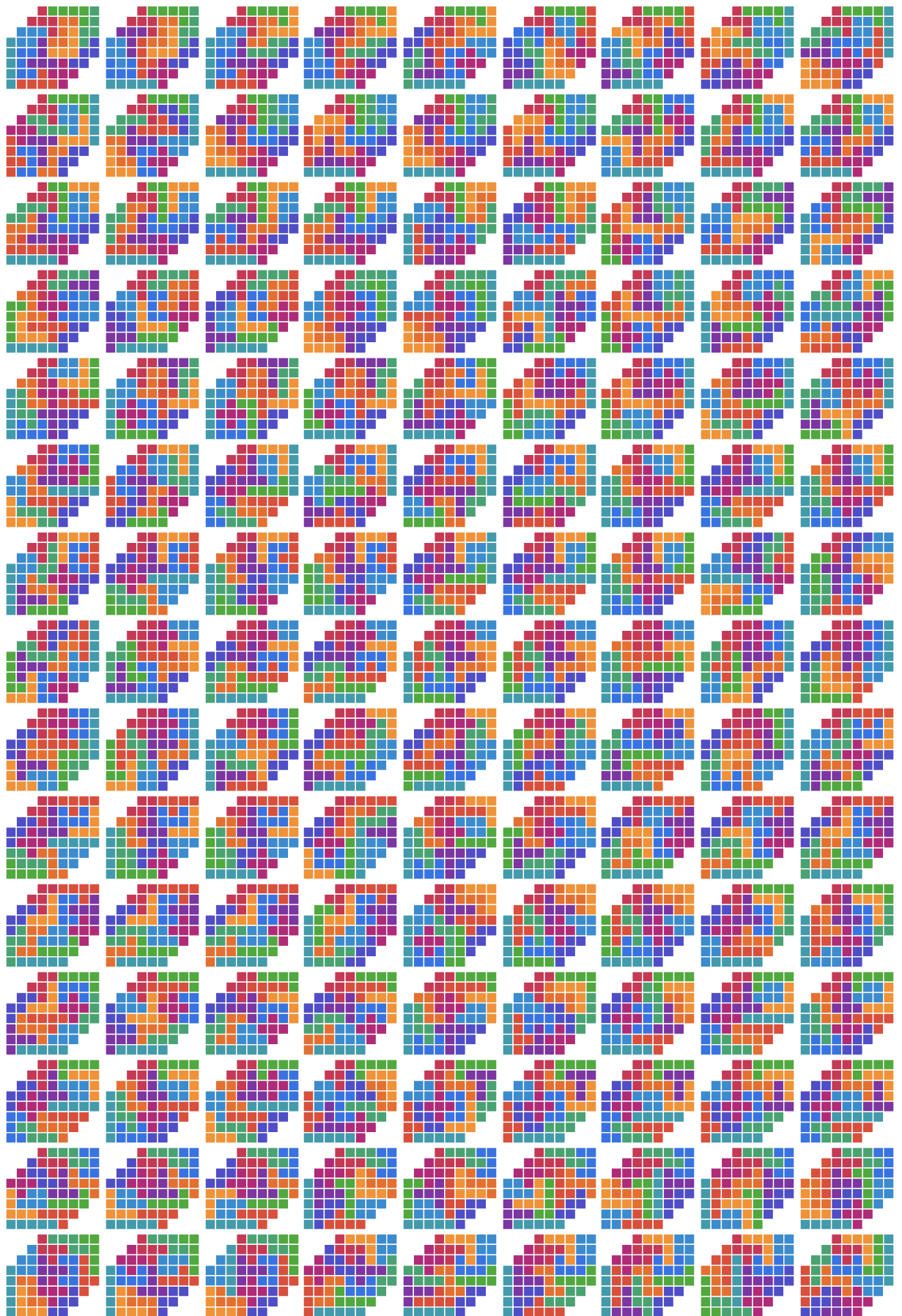


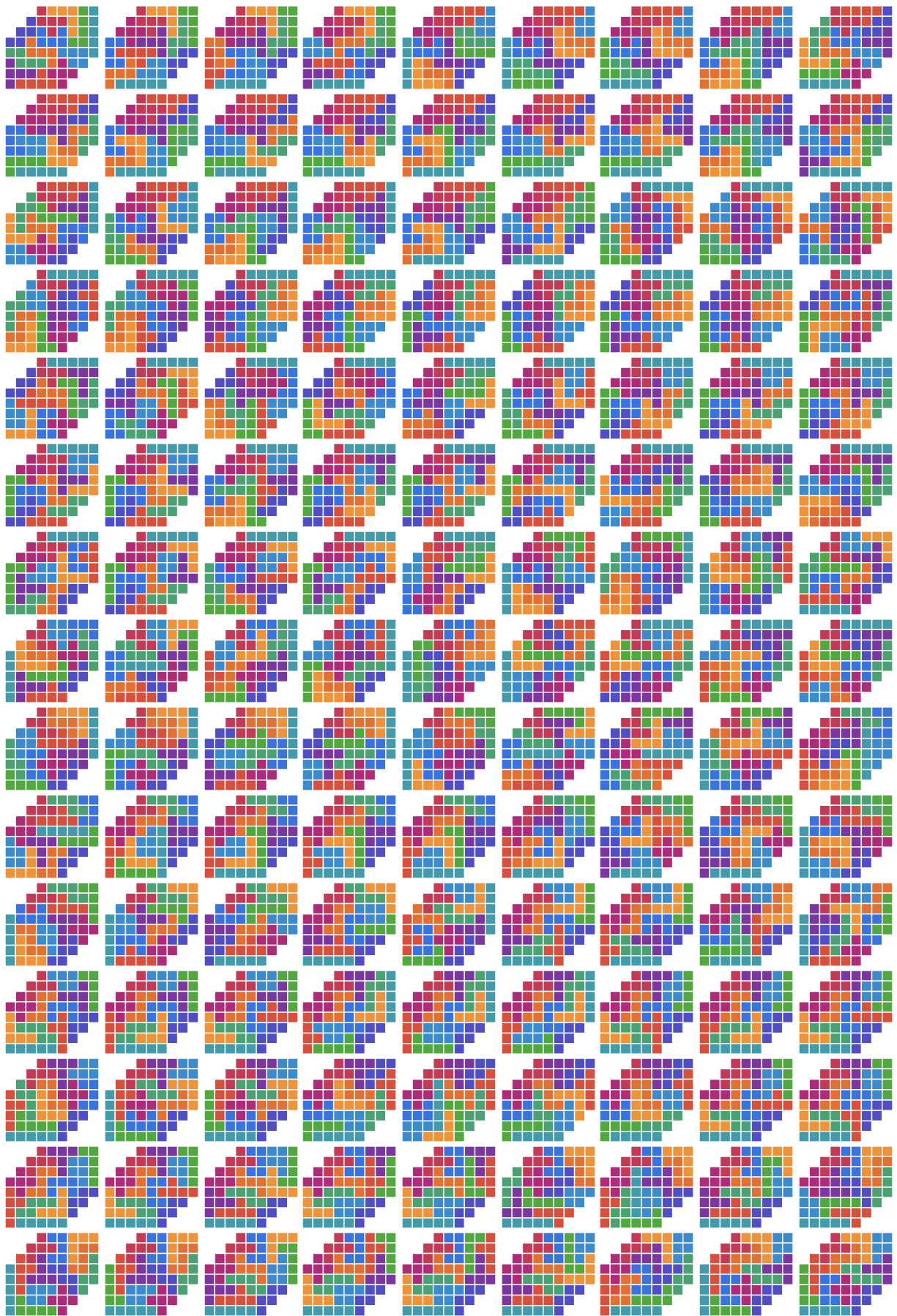


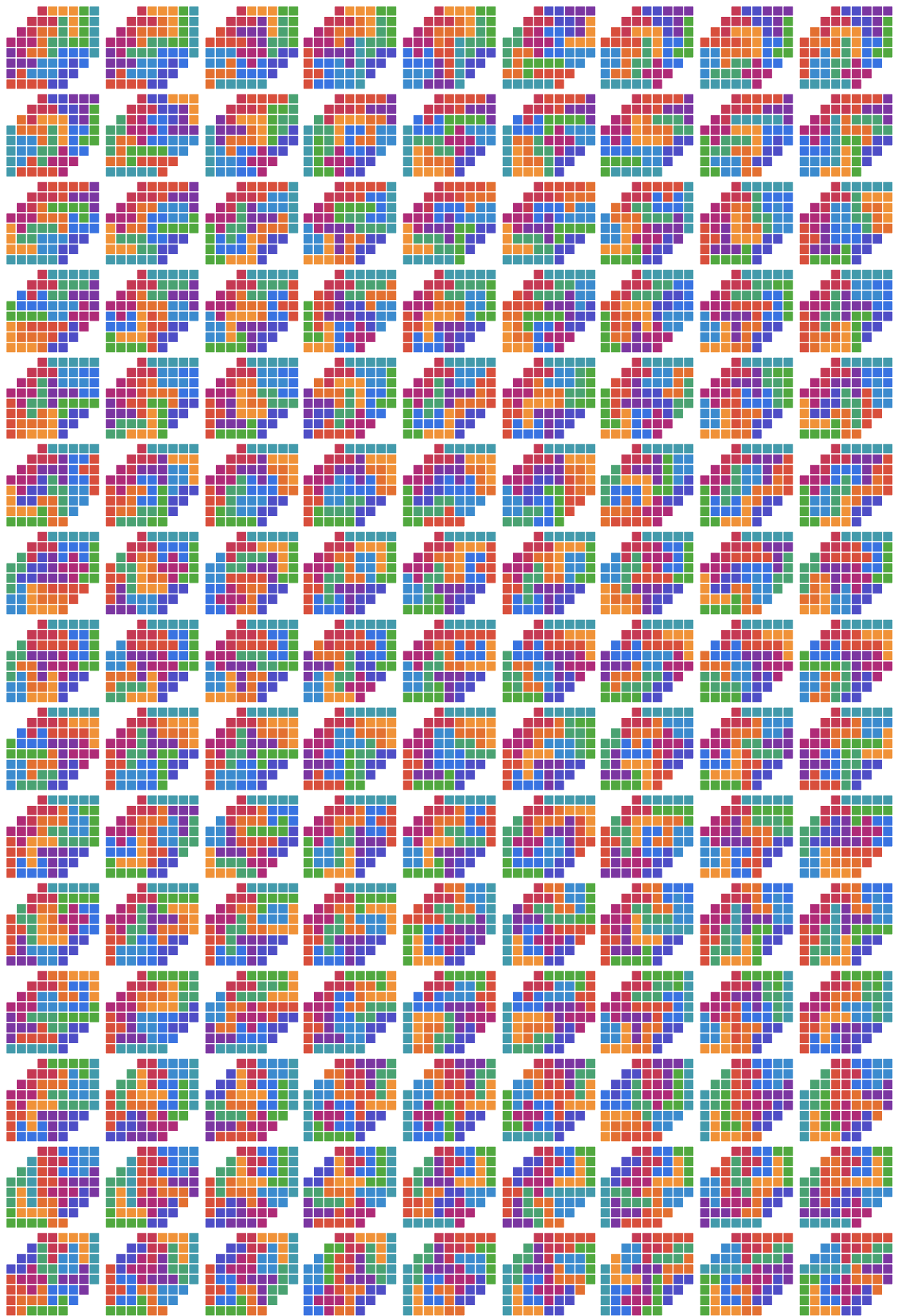


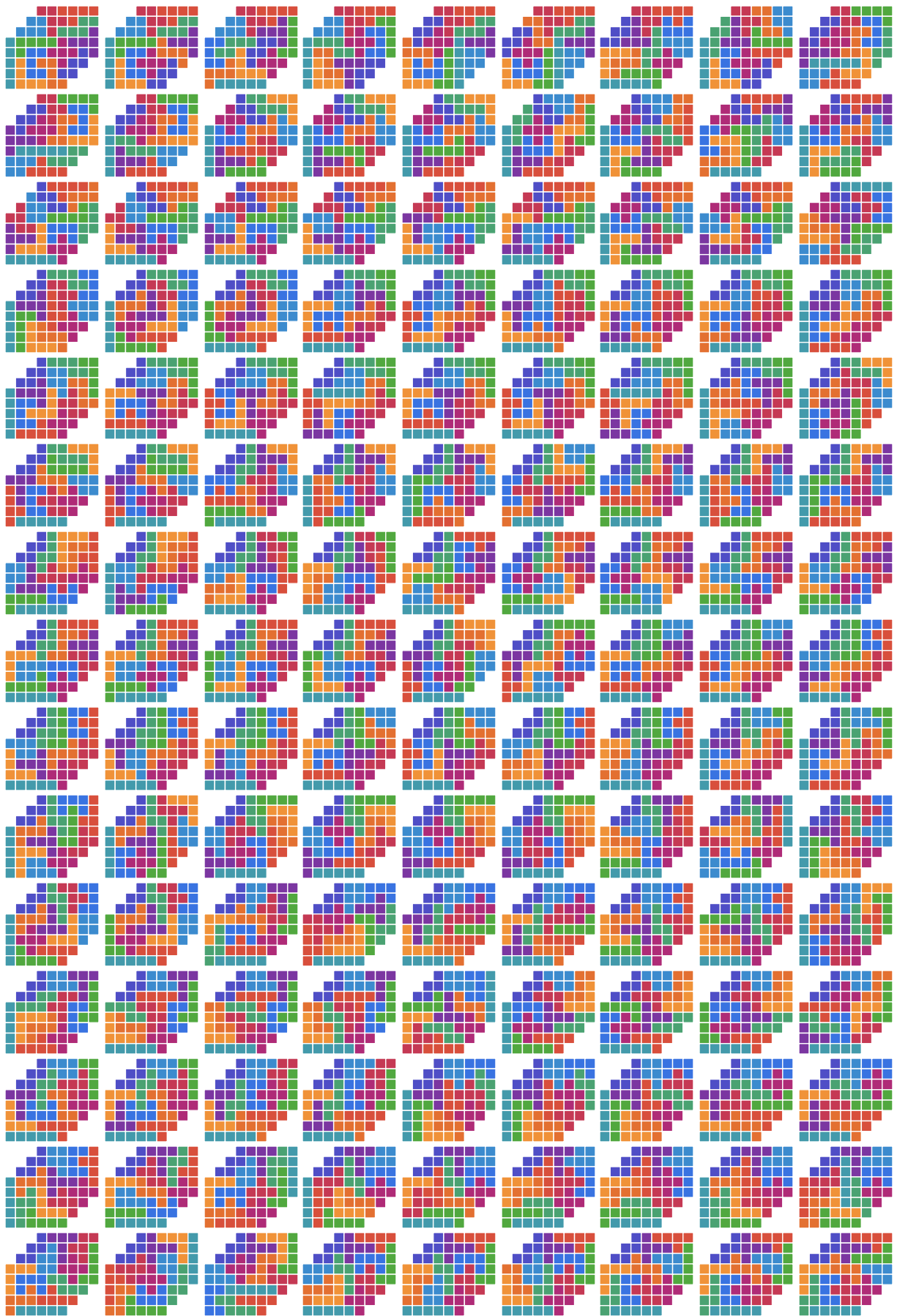


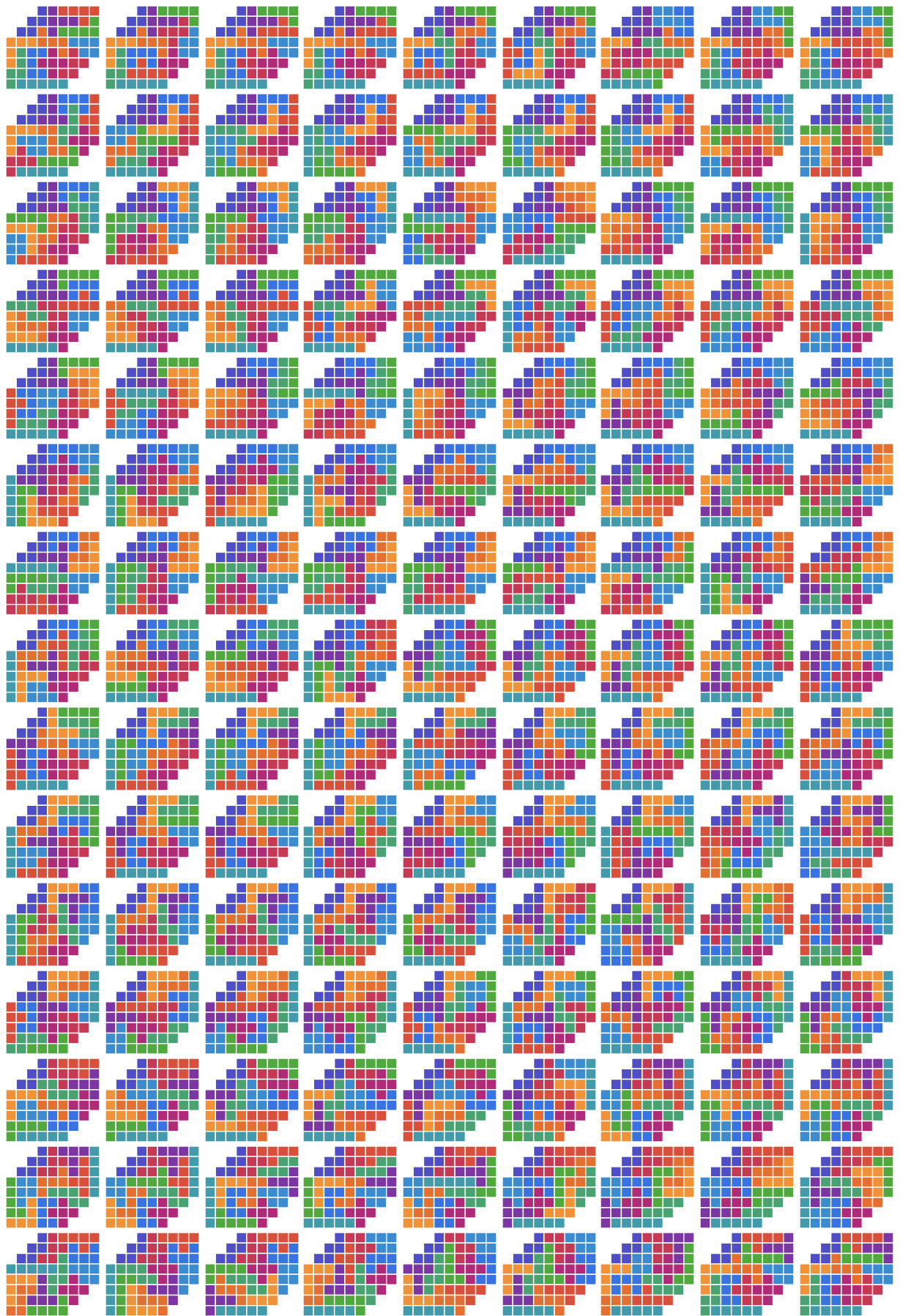


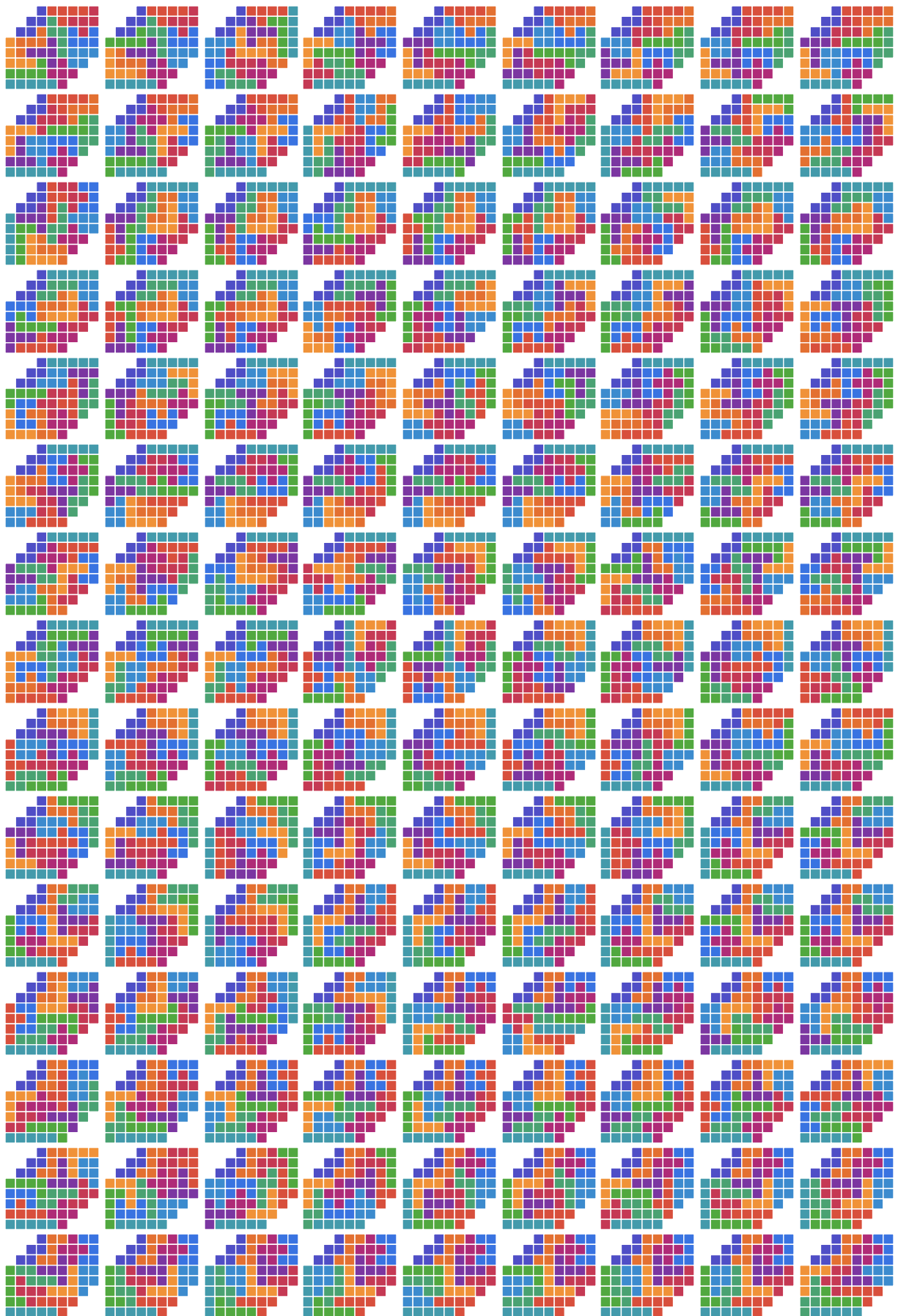


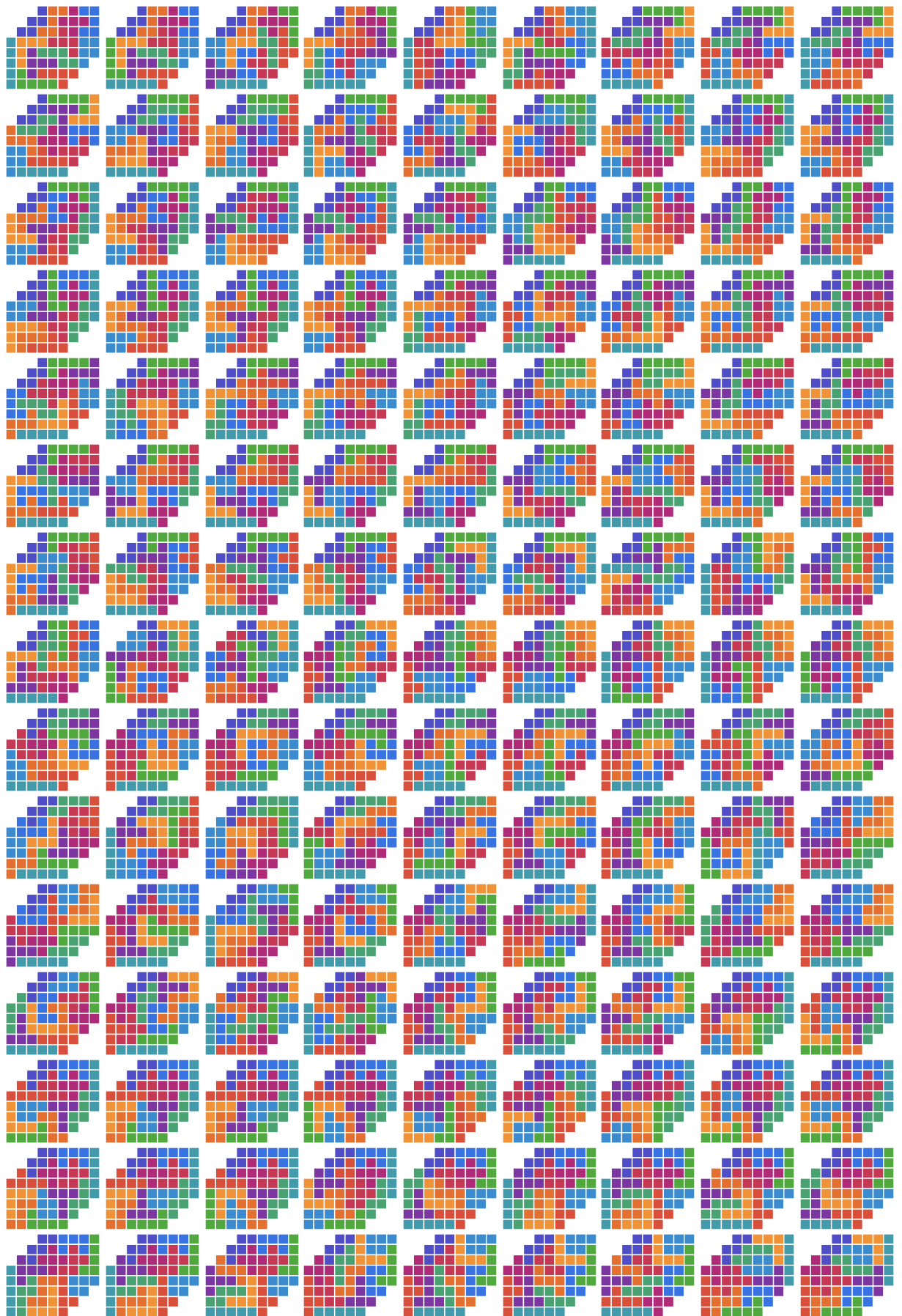


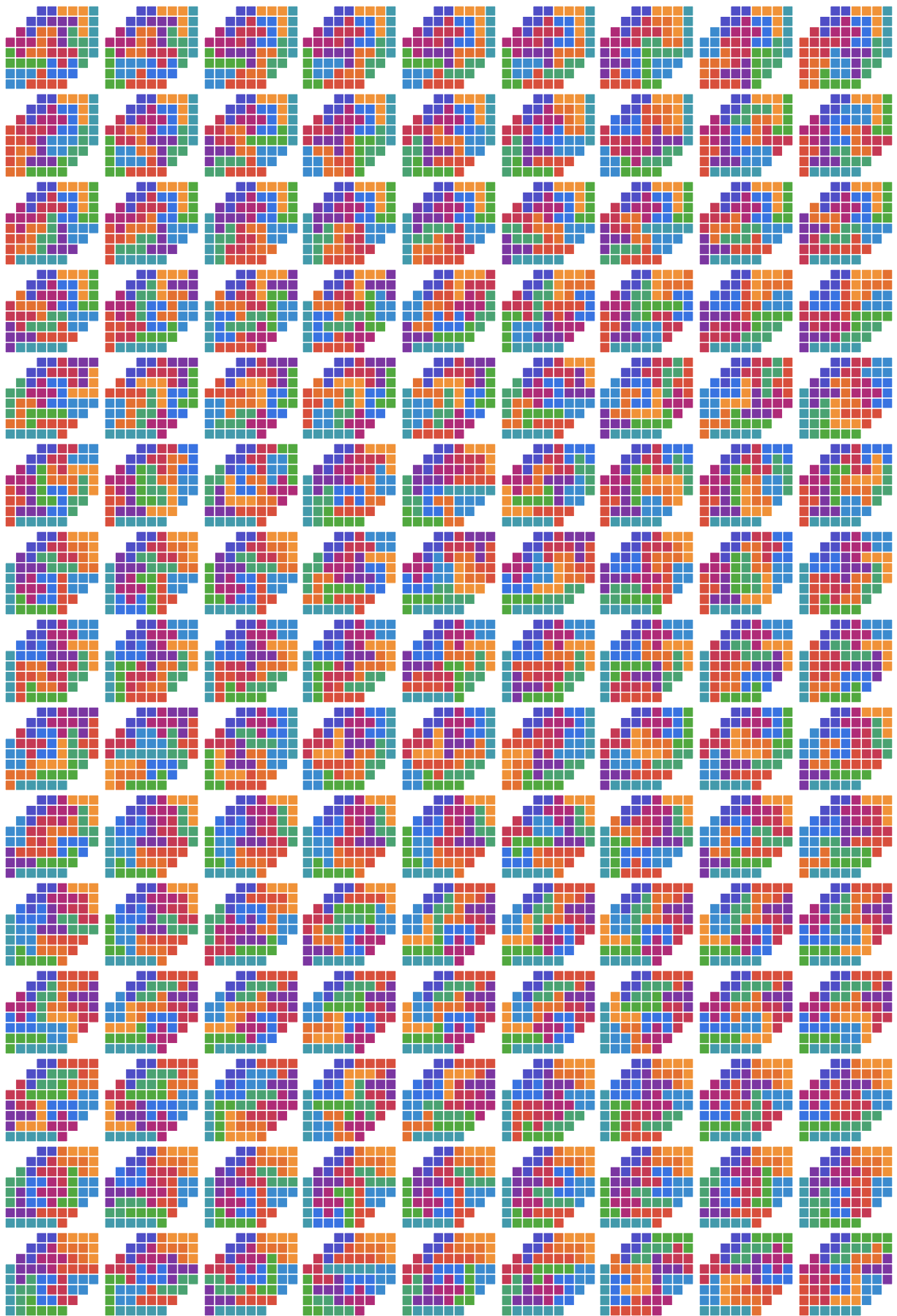


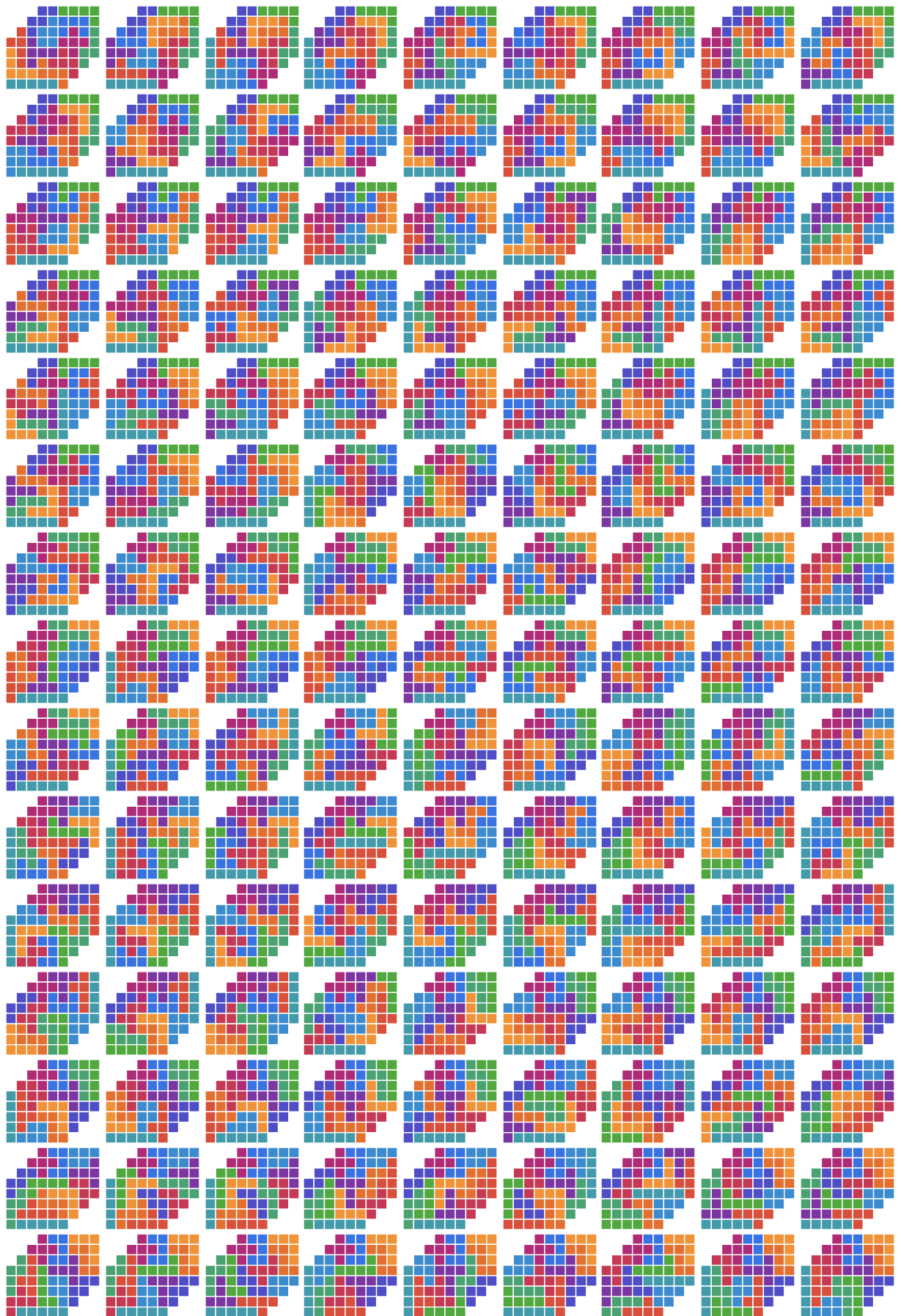


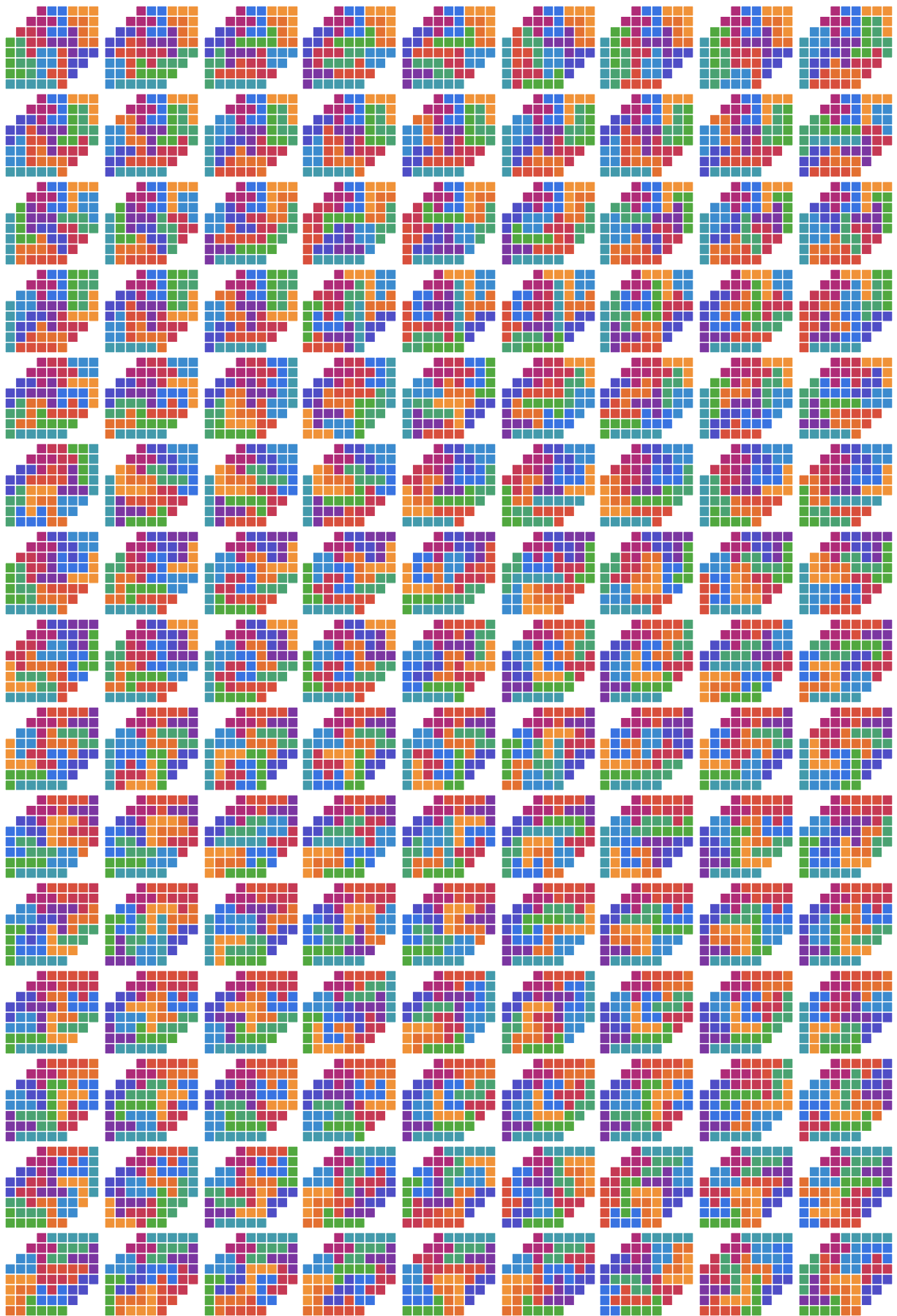


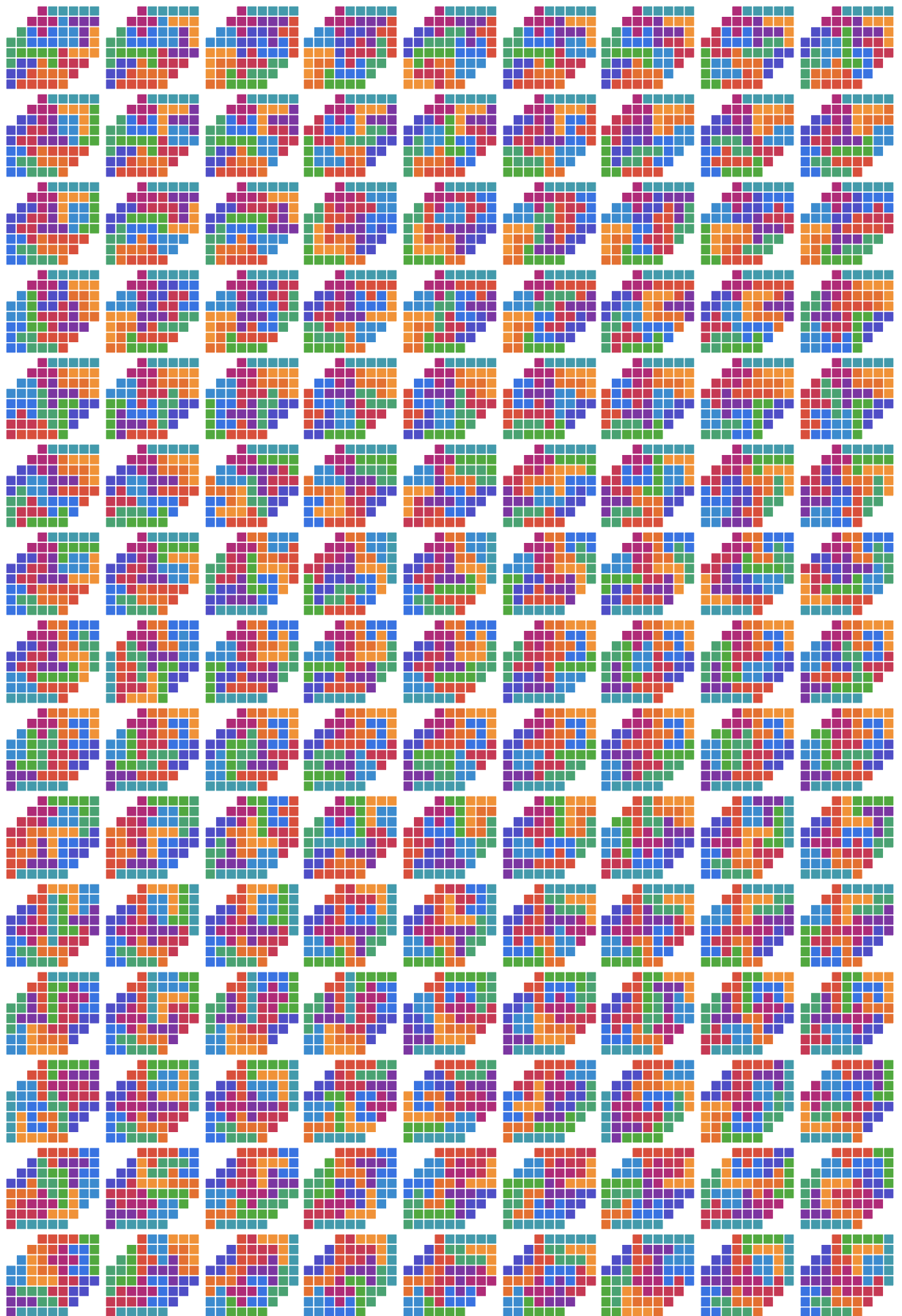


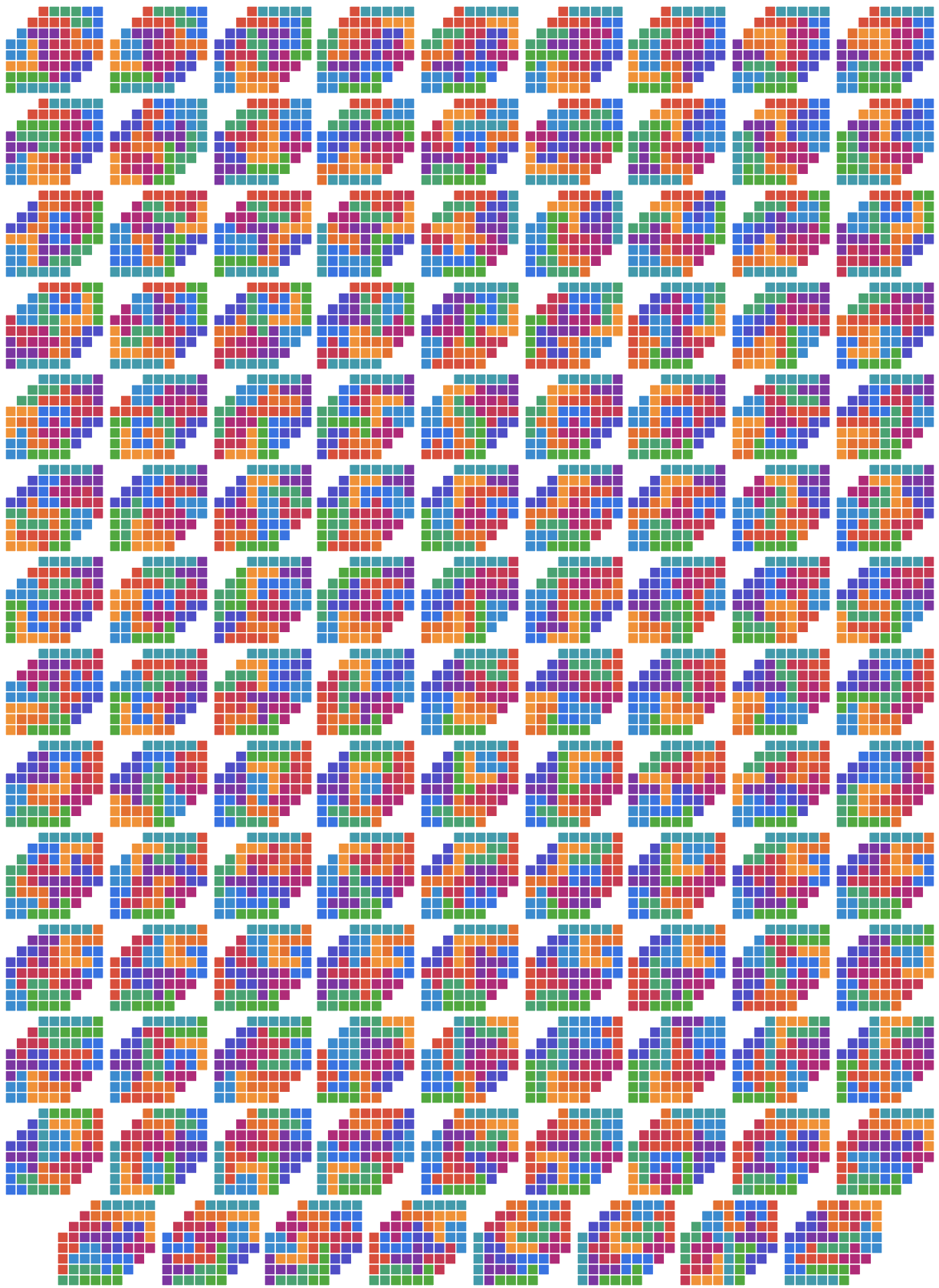


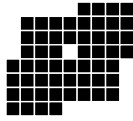






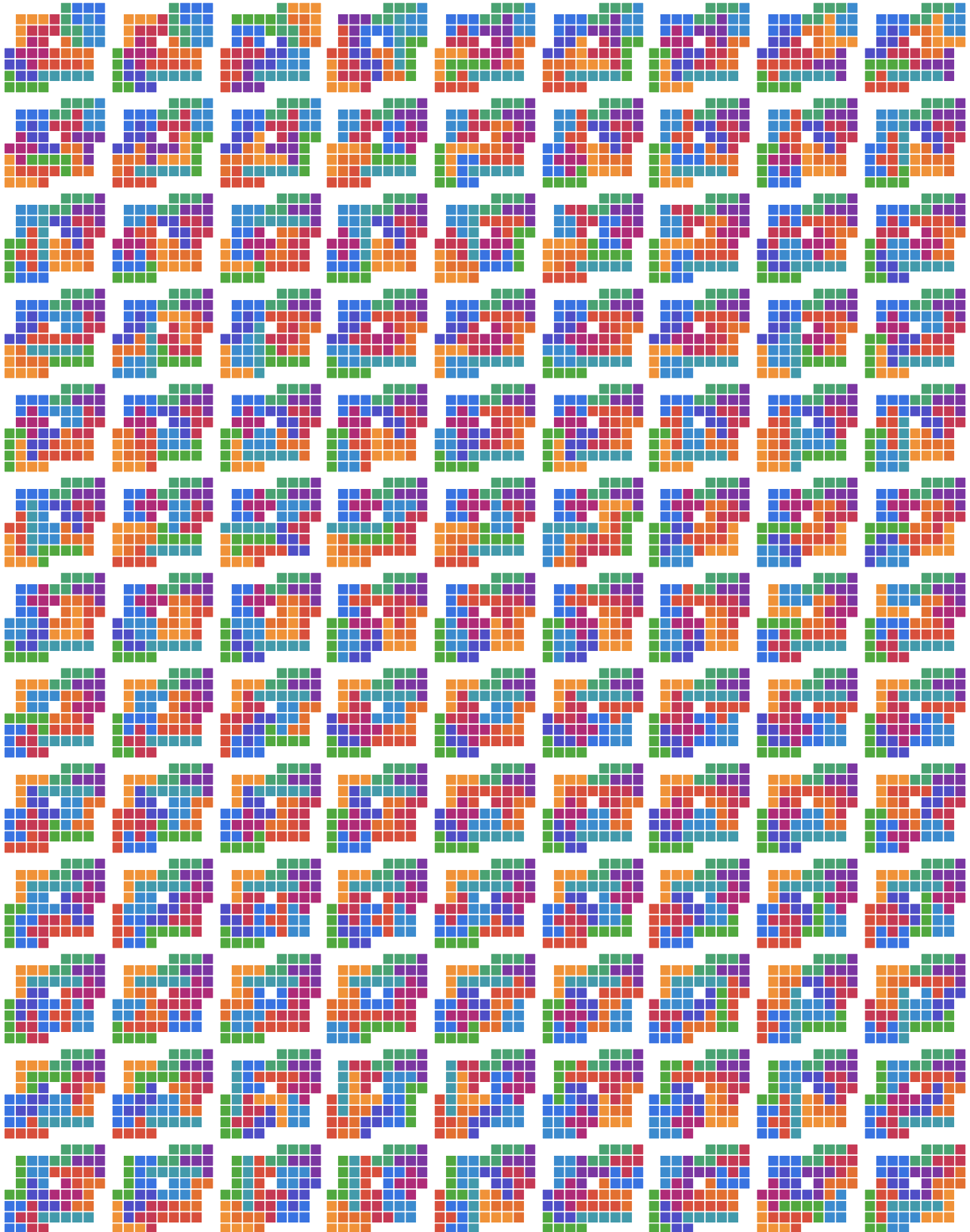


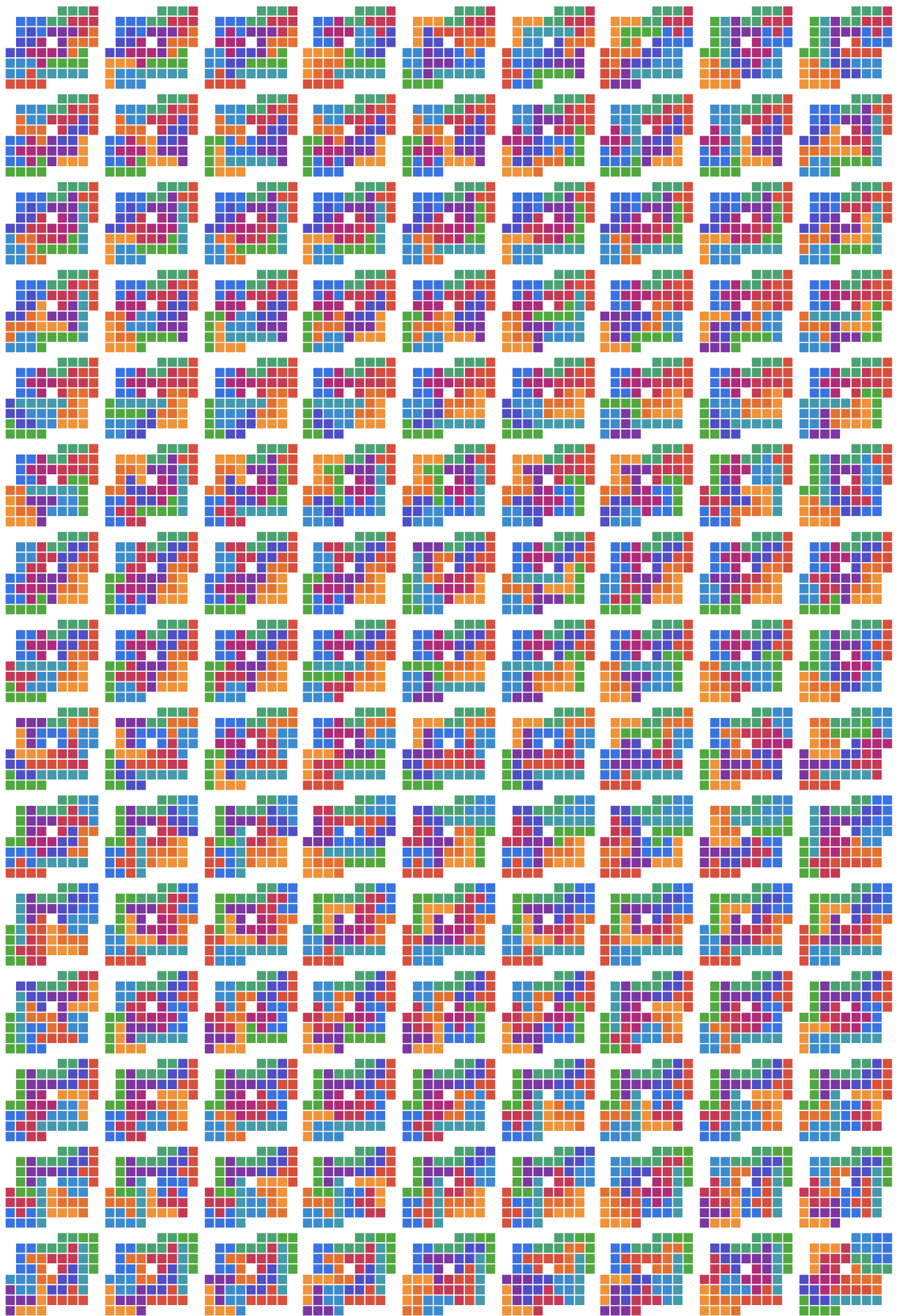


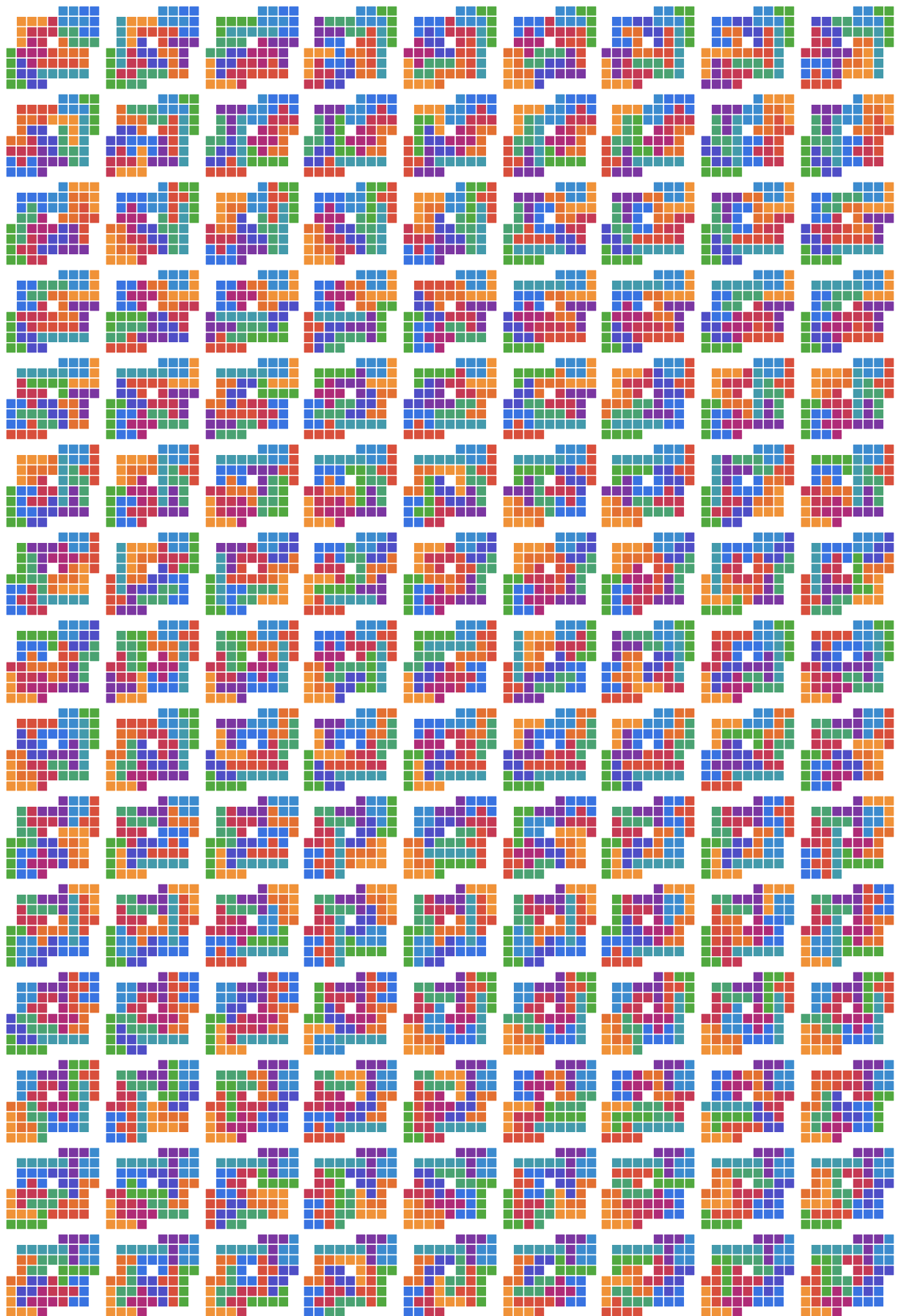


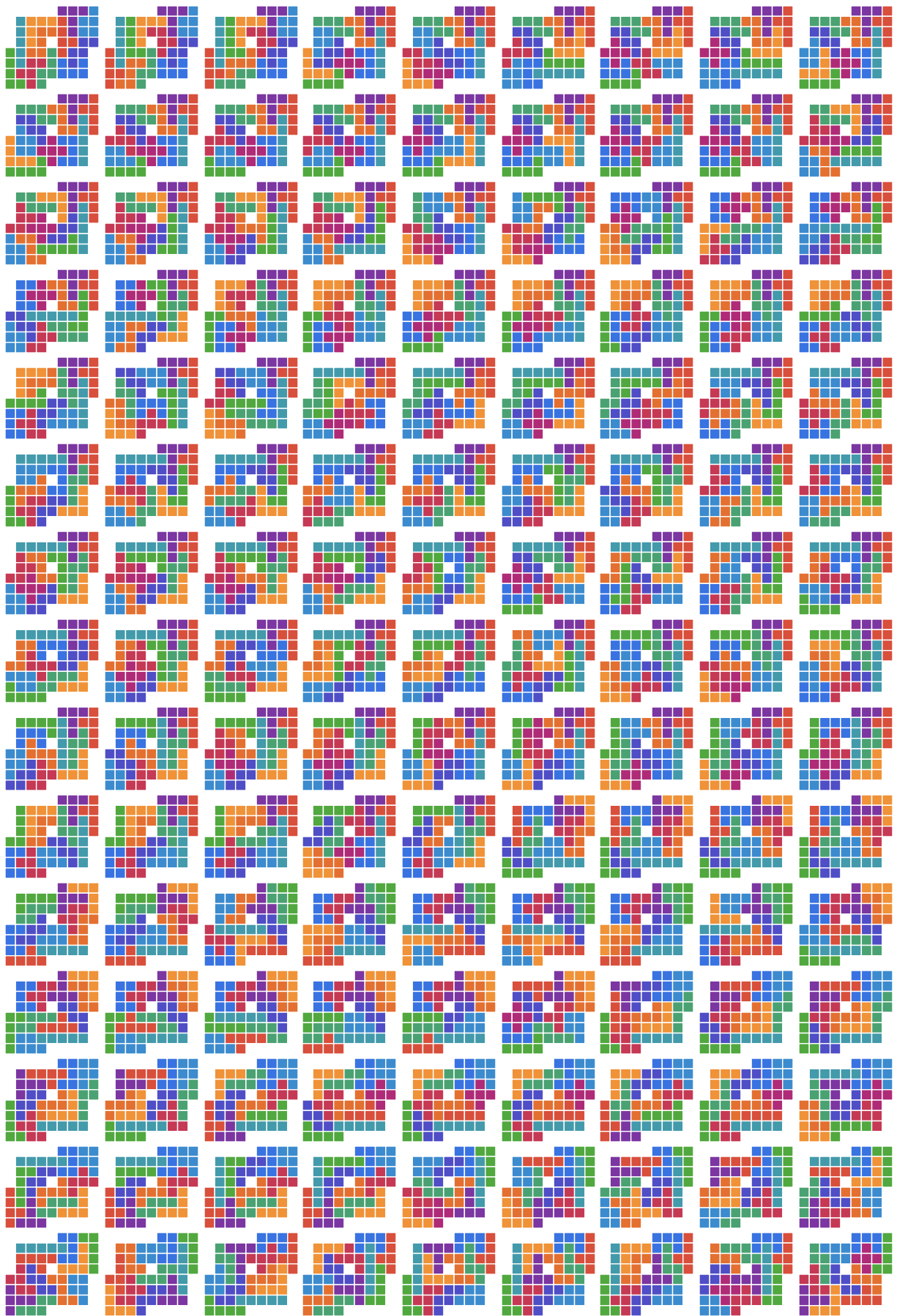
freeform1

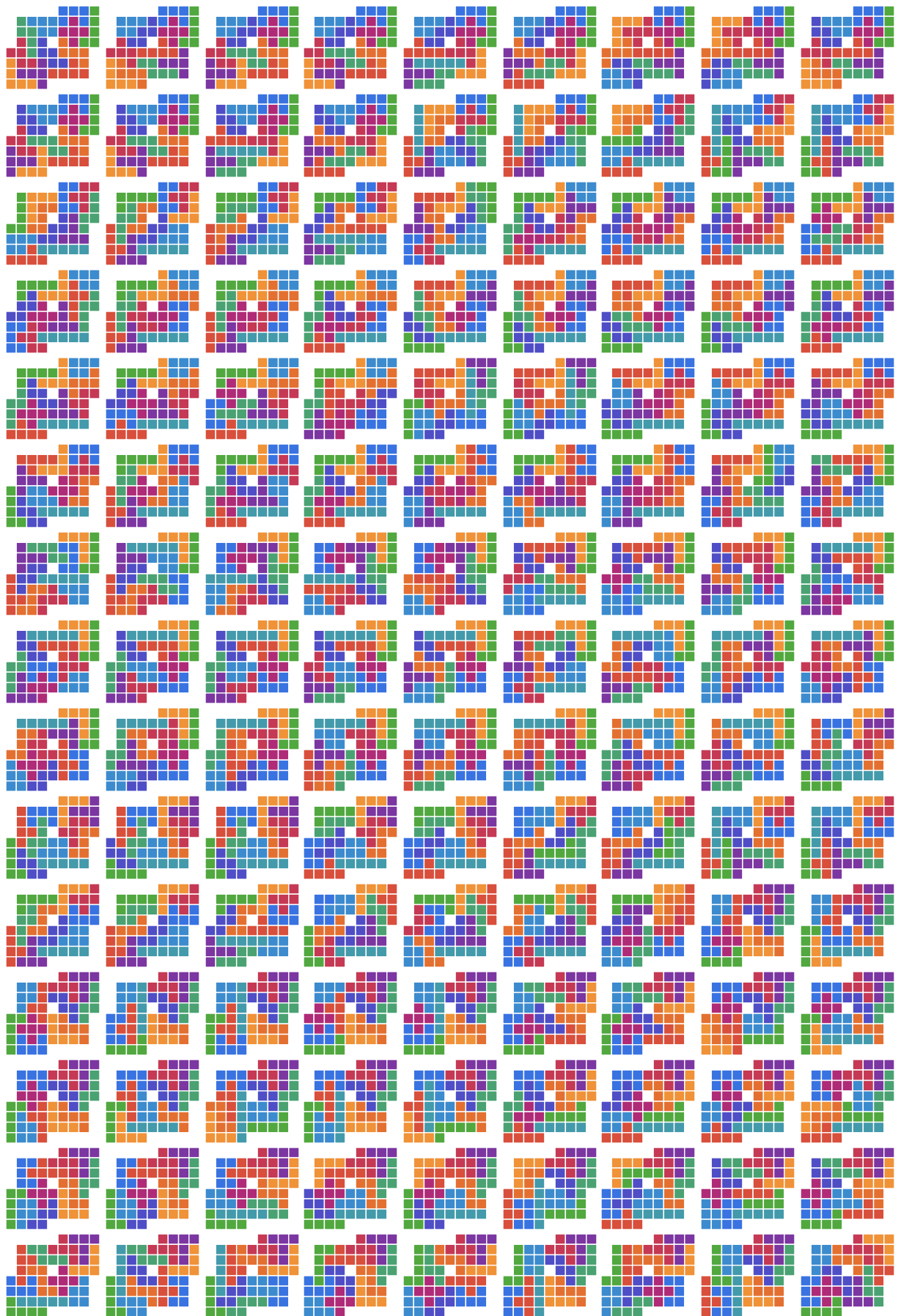
1,888 Solutions

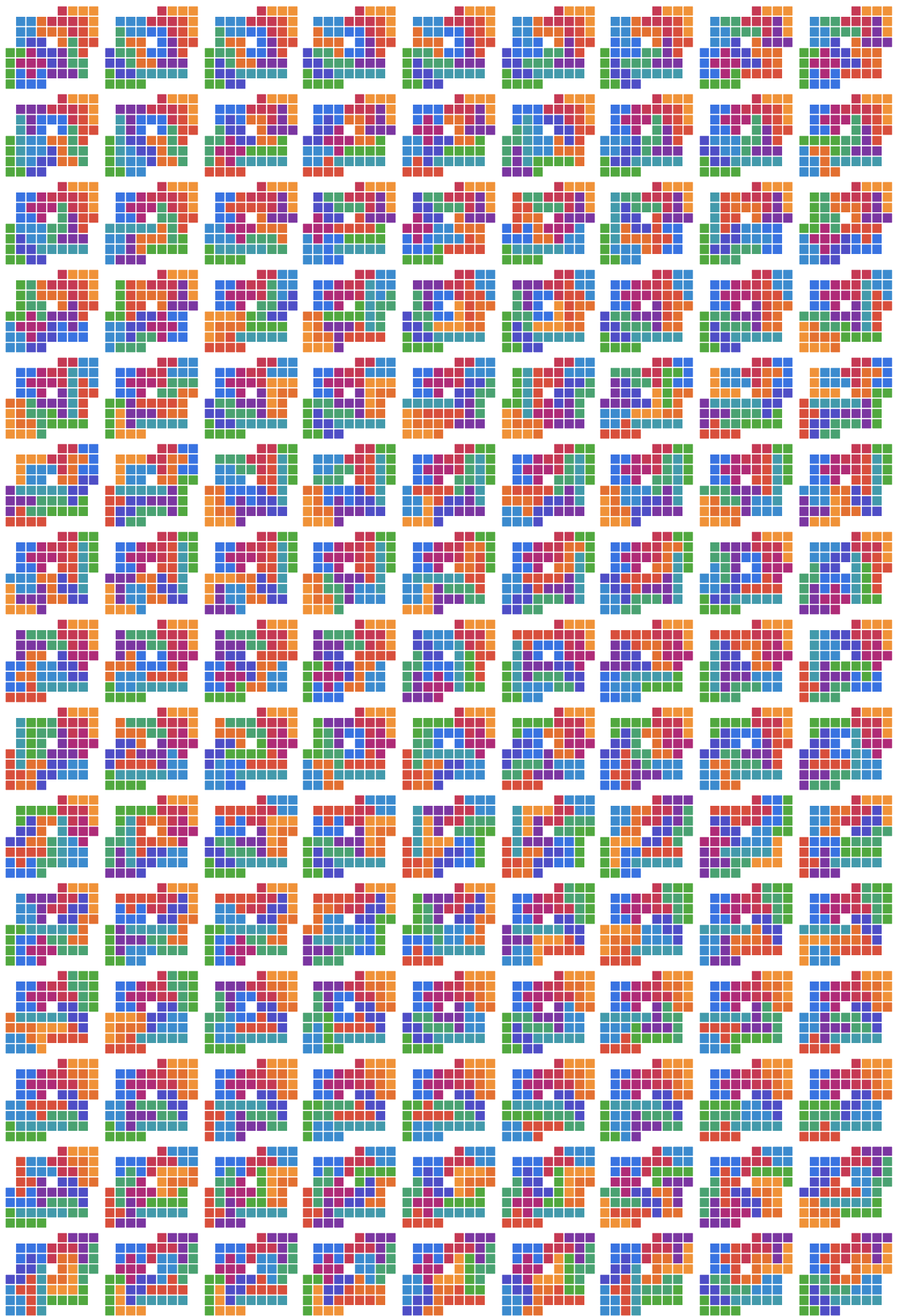


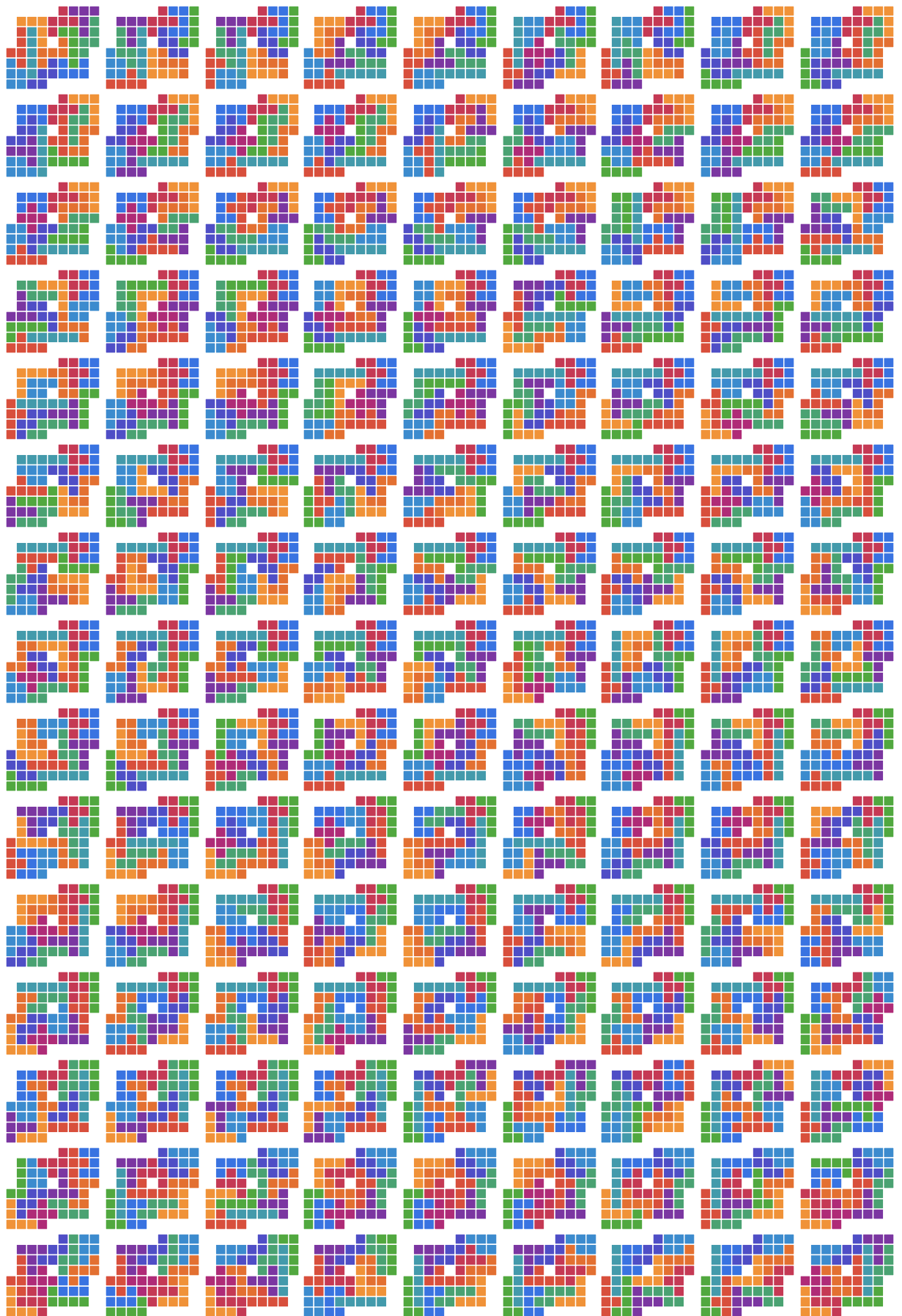


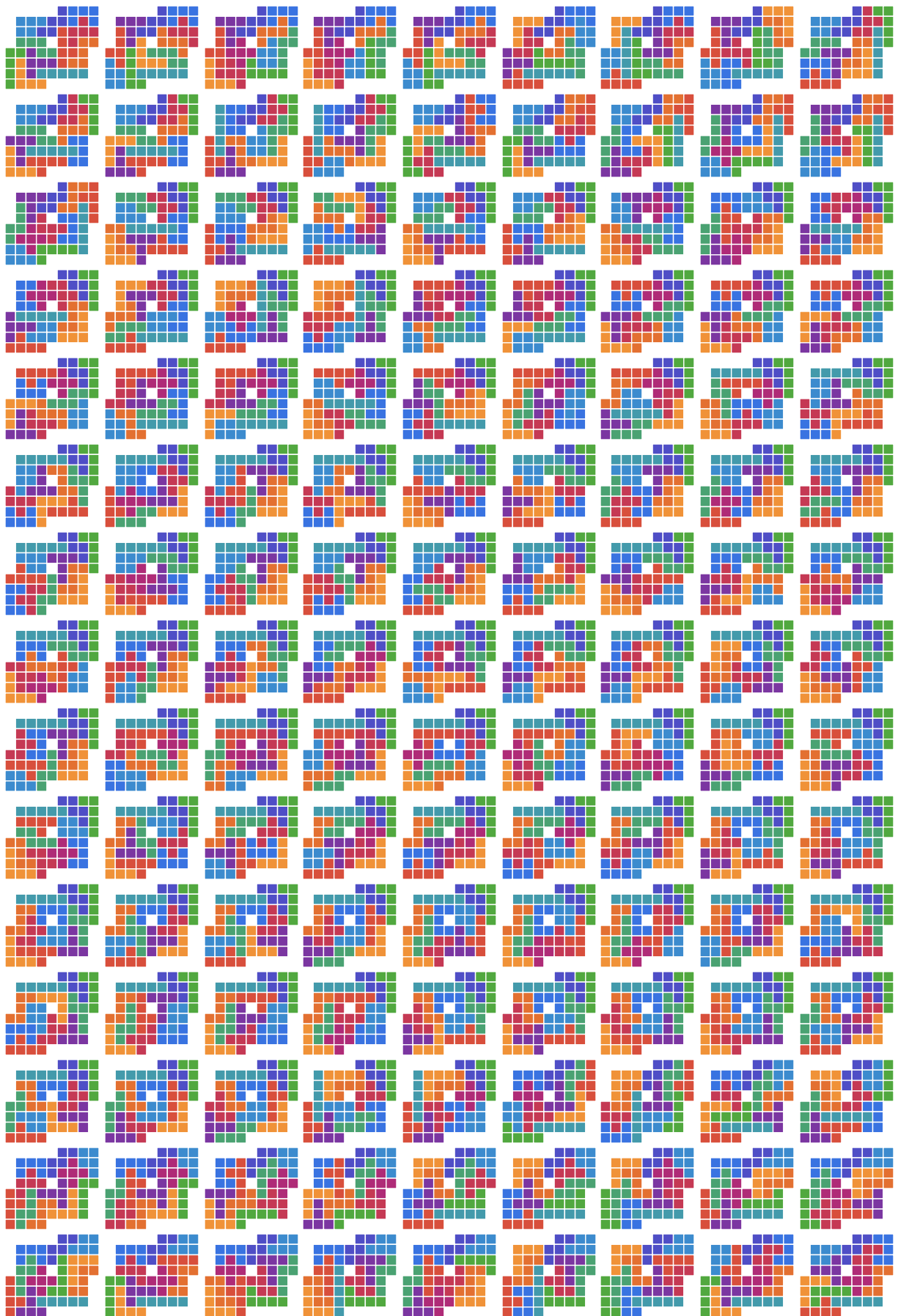


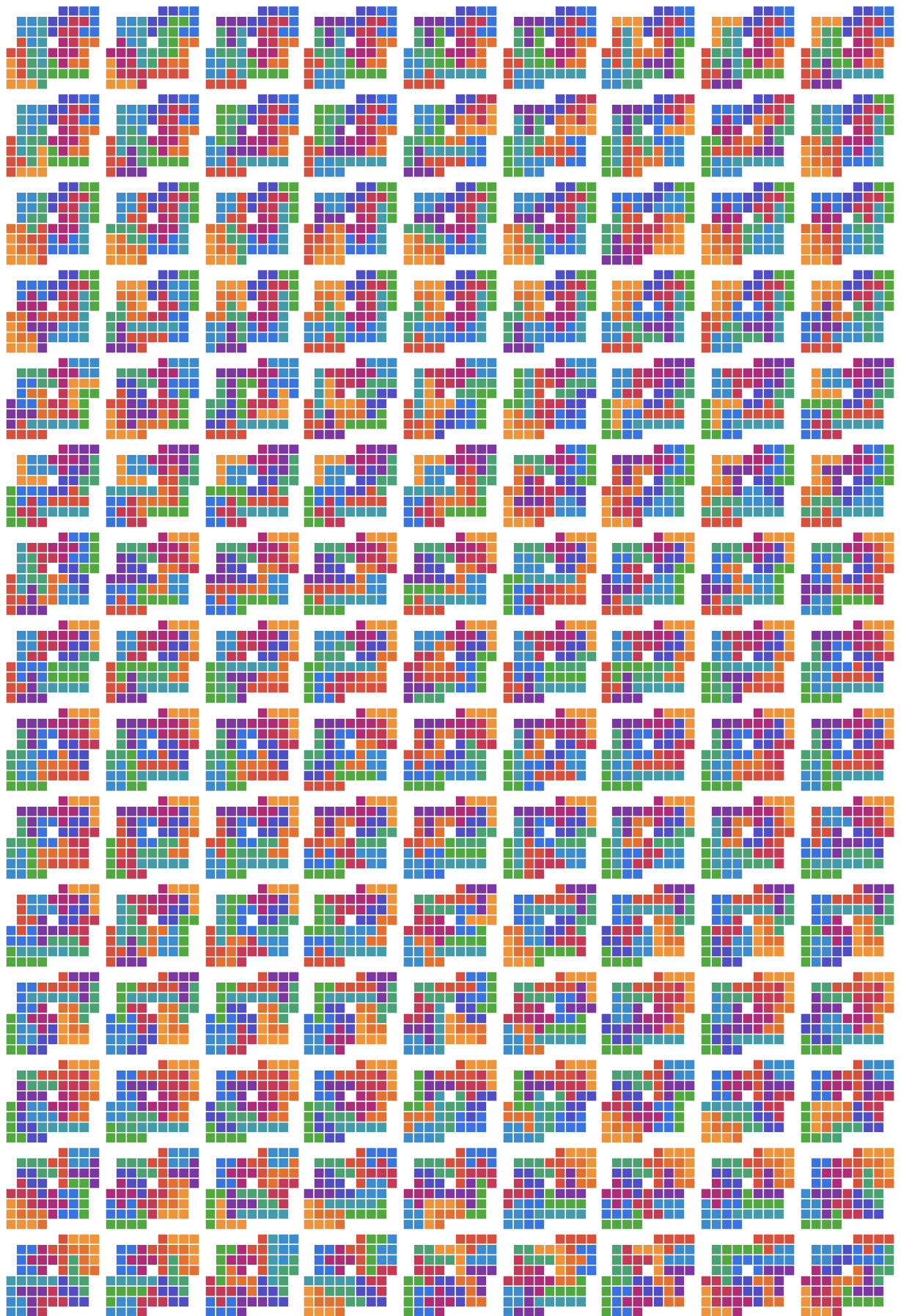


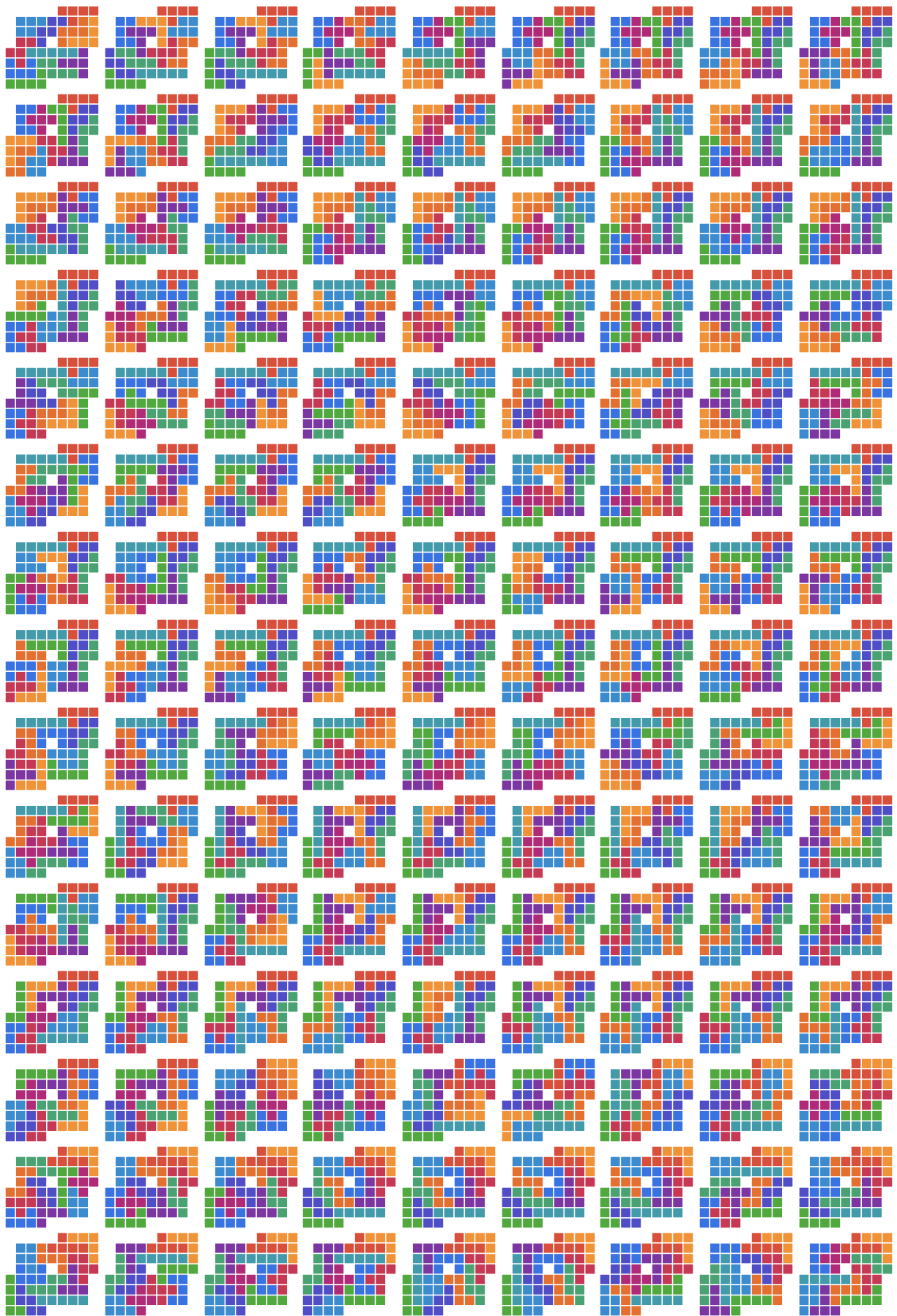


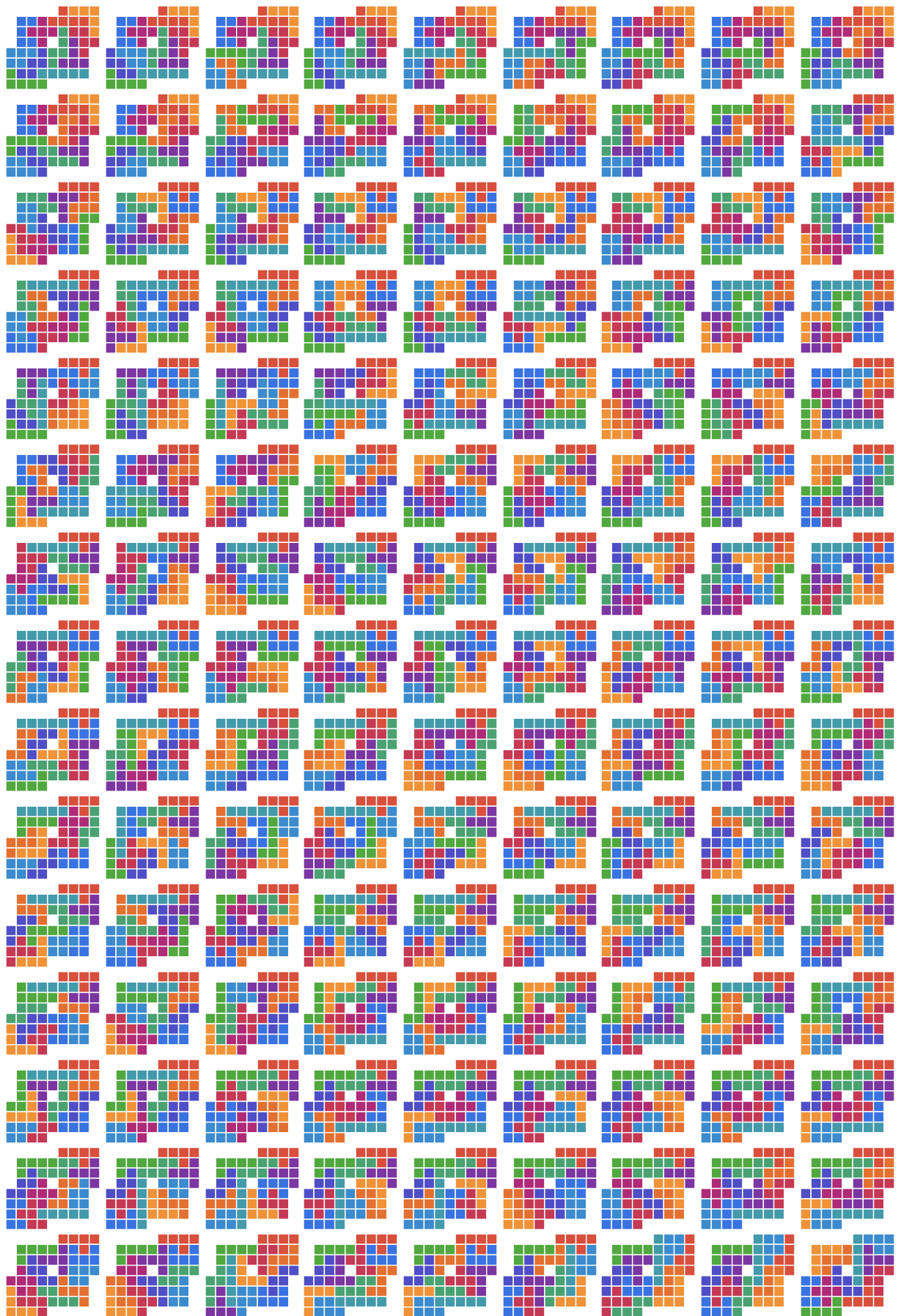


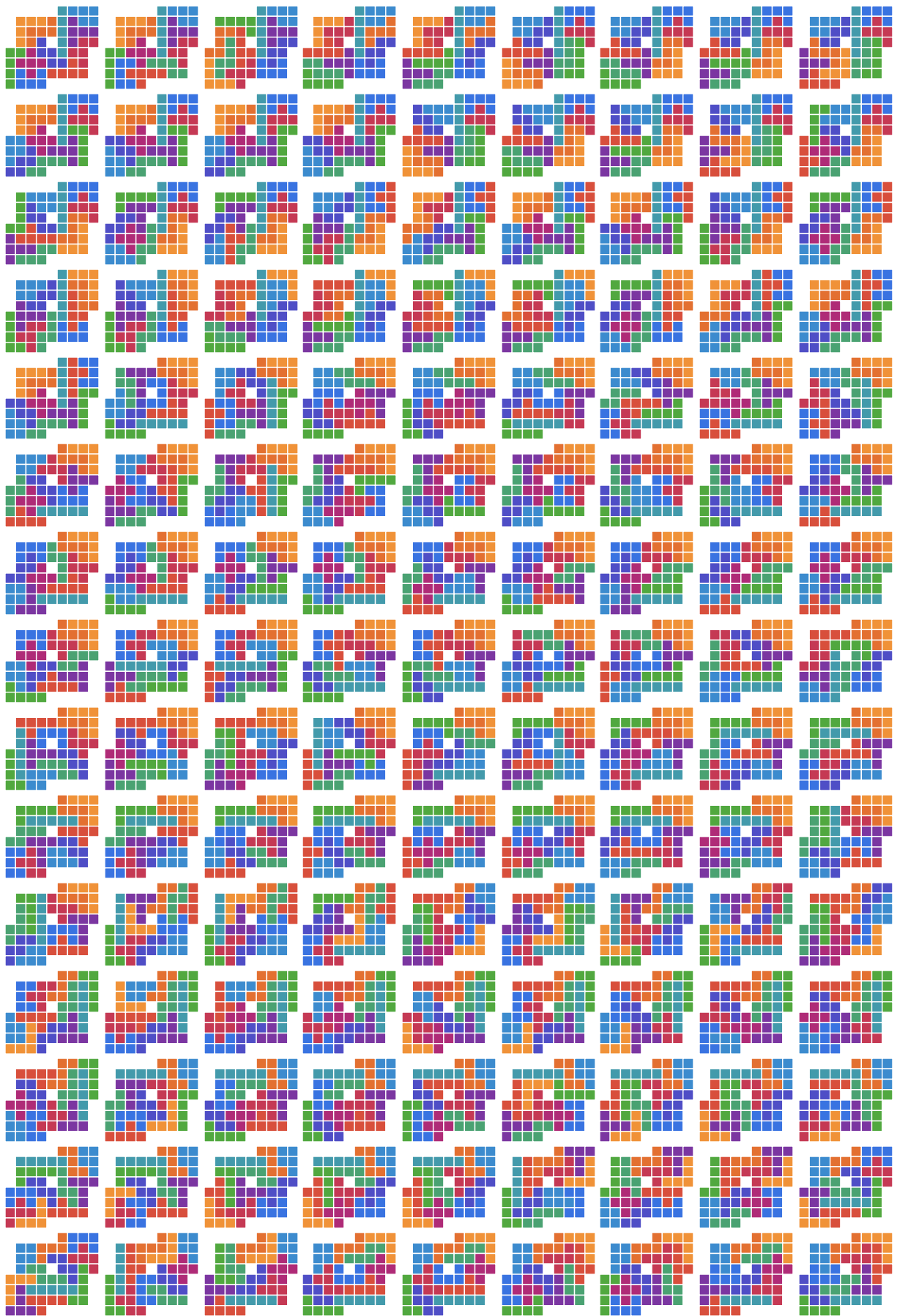


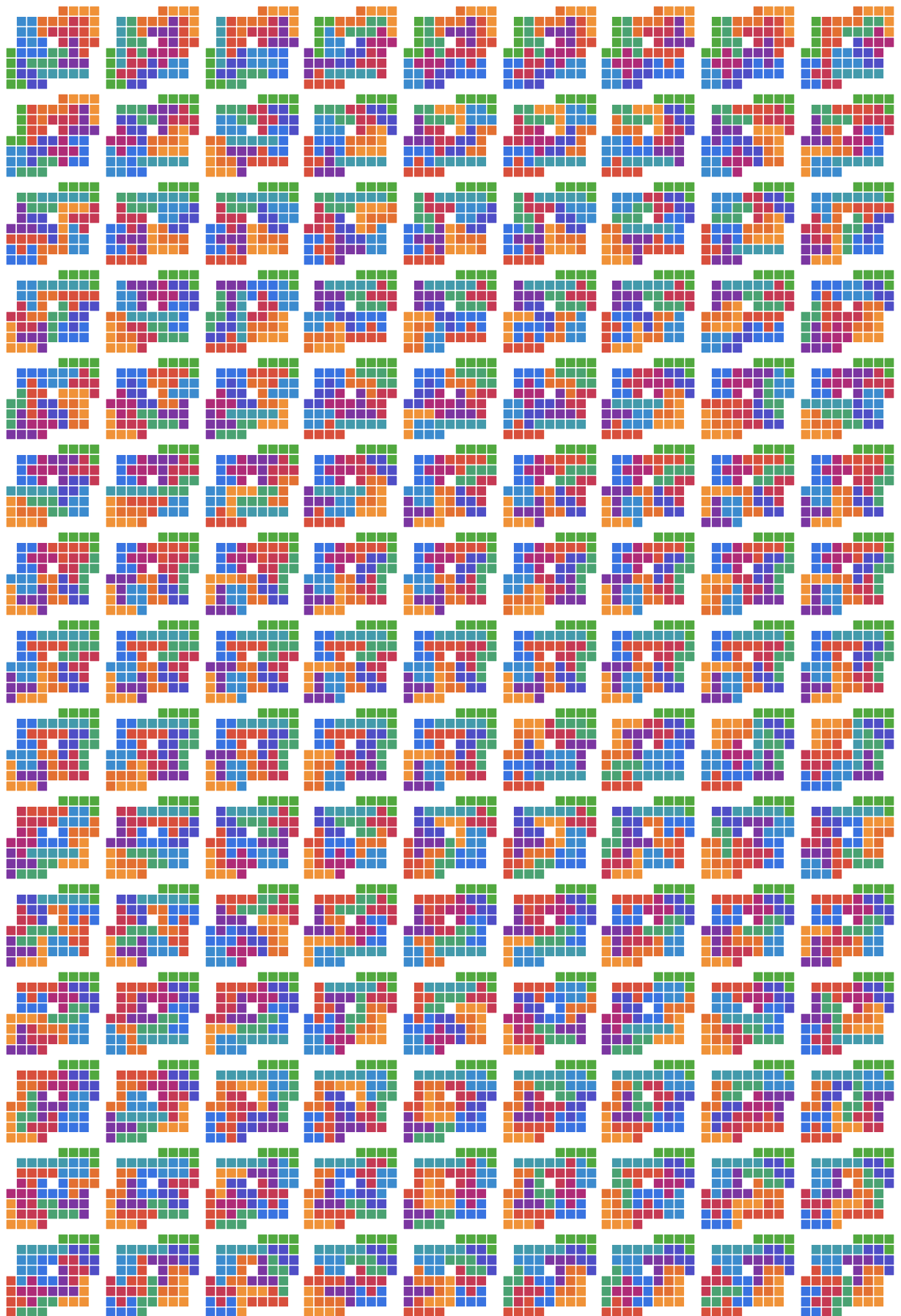


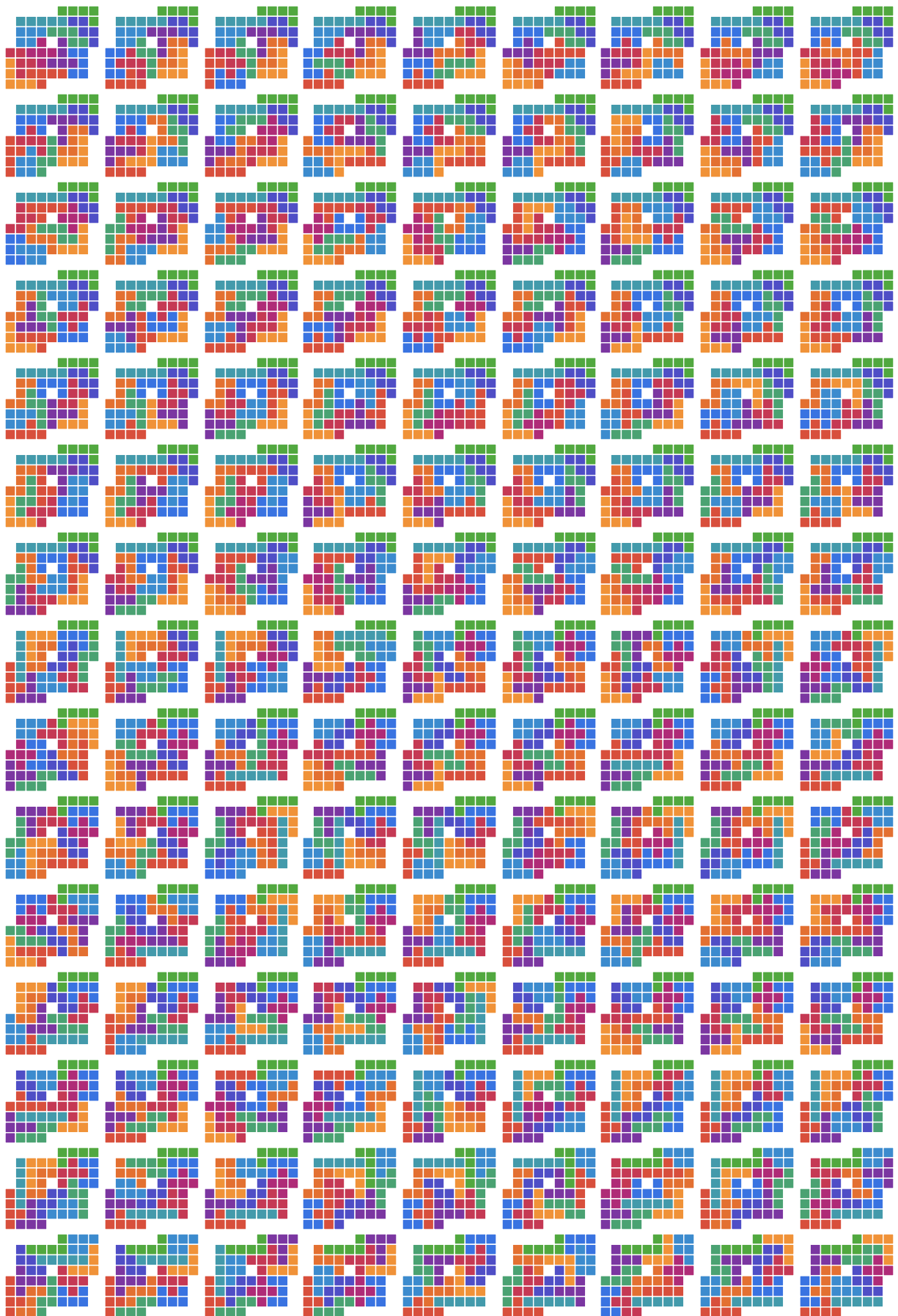


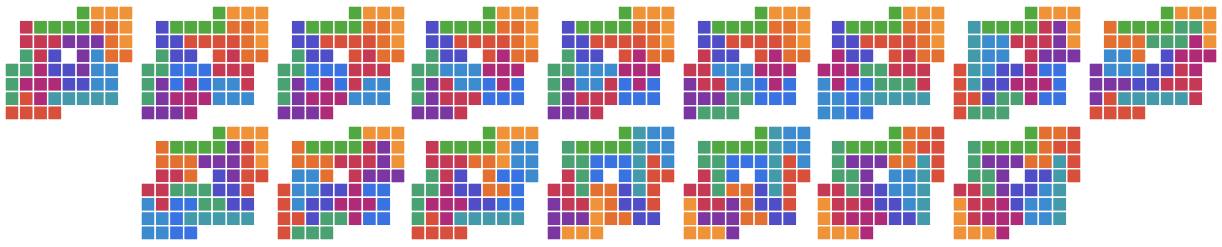


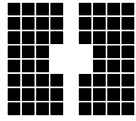






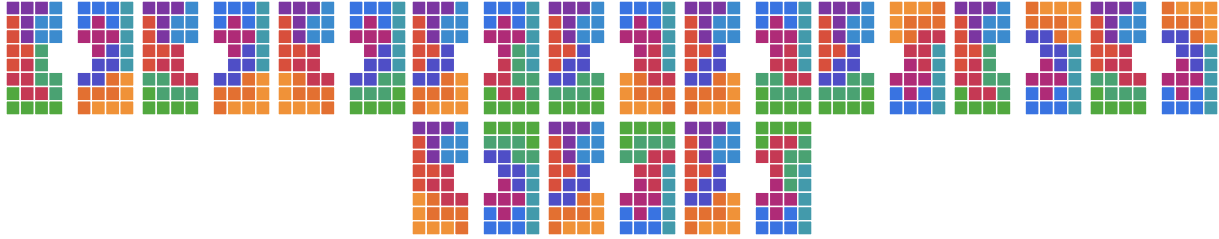


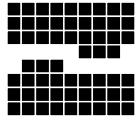




divider1

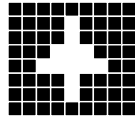
12 Solutions





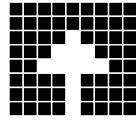
divider2
9 Solutions





diode
3 Solutions



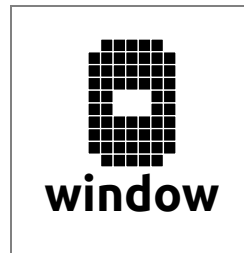
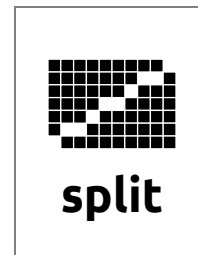
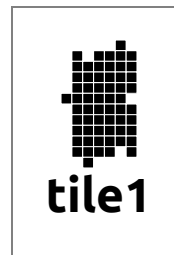
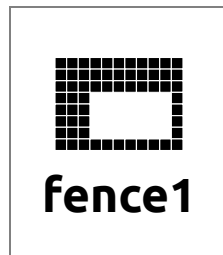
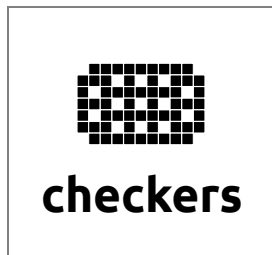
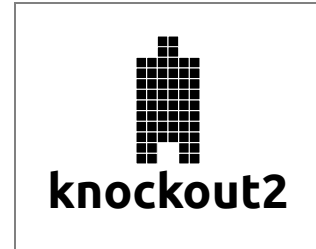
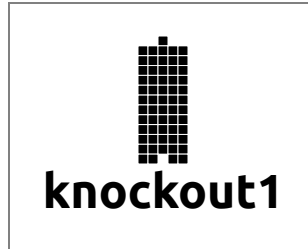
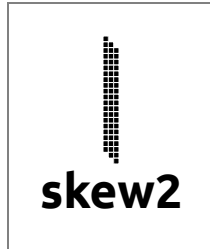
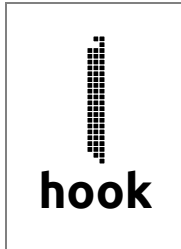


arrow
7 Solutions

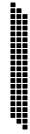


Variations on a rectangle

All of these are variations on the basic rectangle shapes.

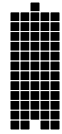






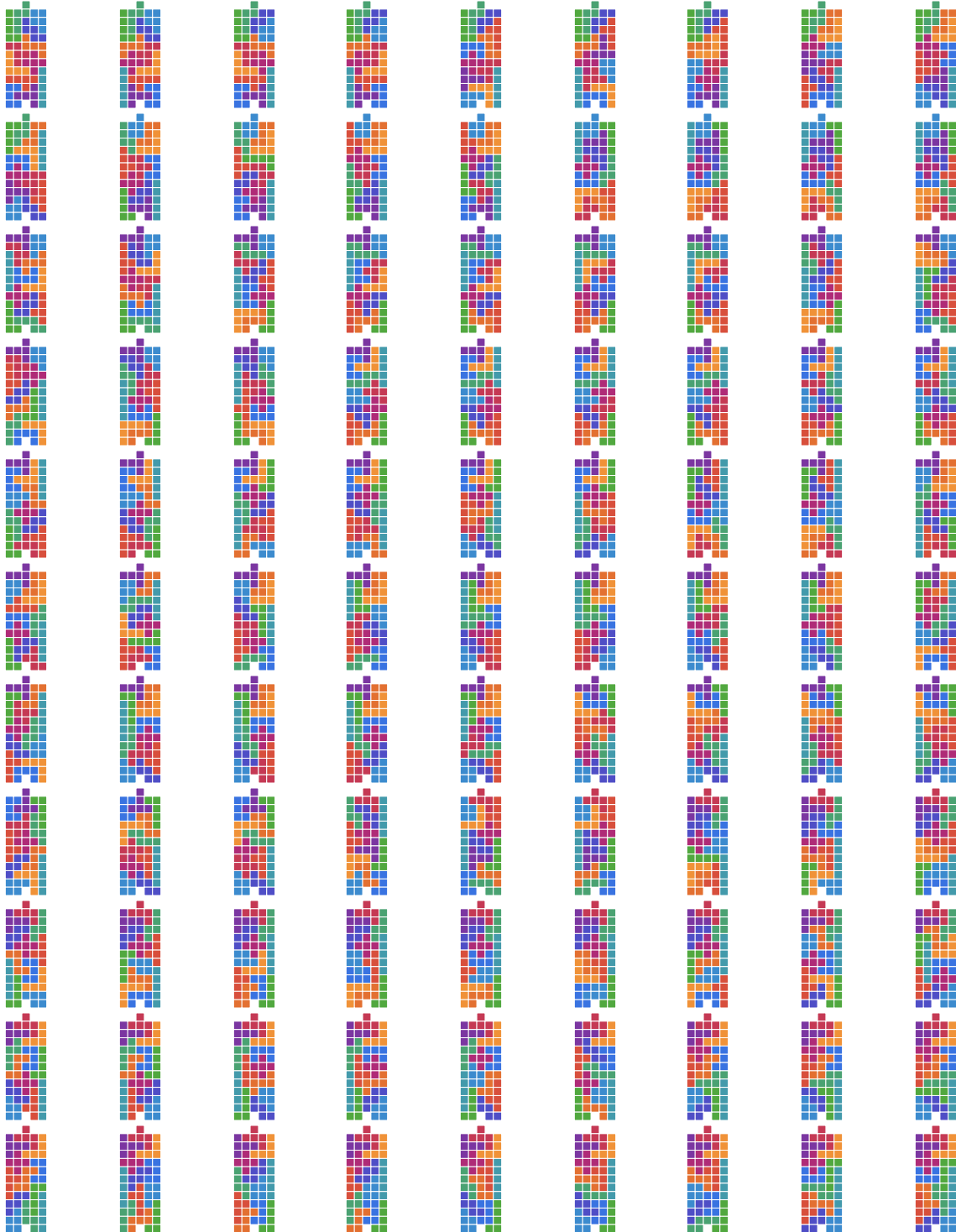
skew2
2 Solutions

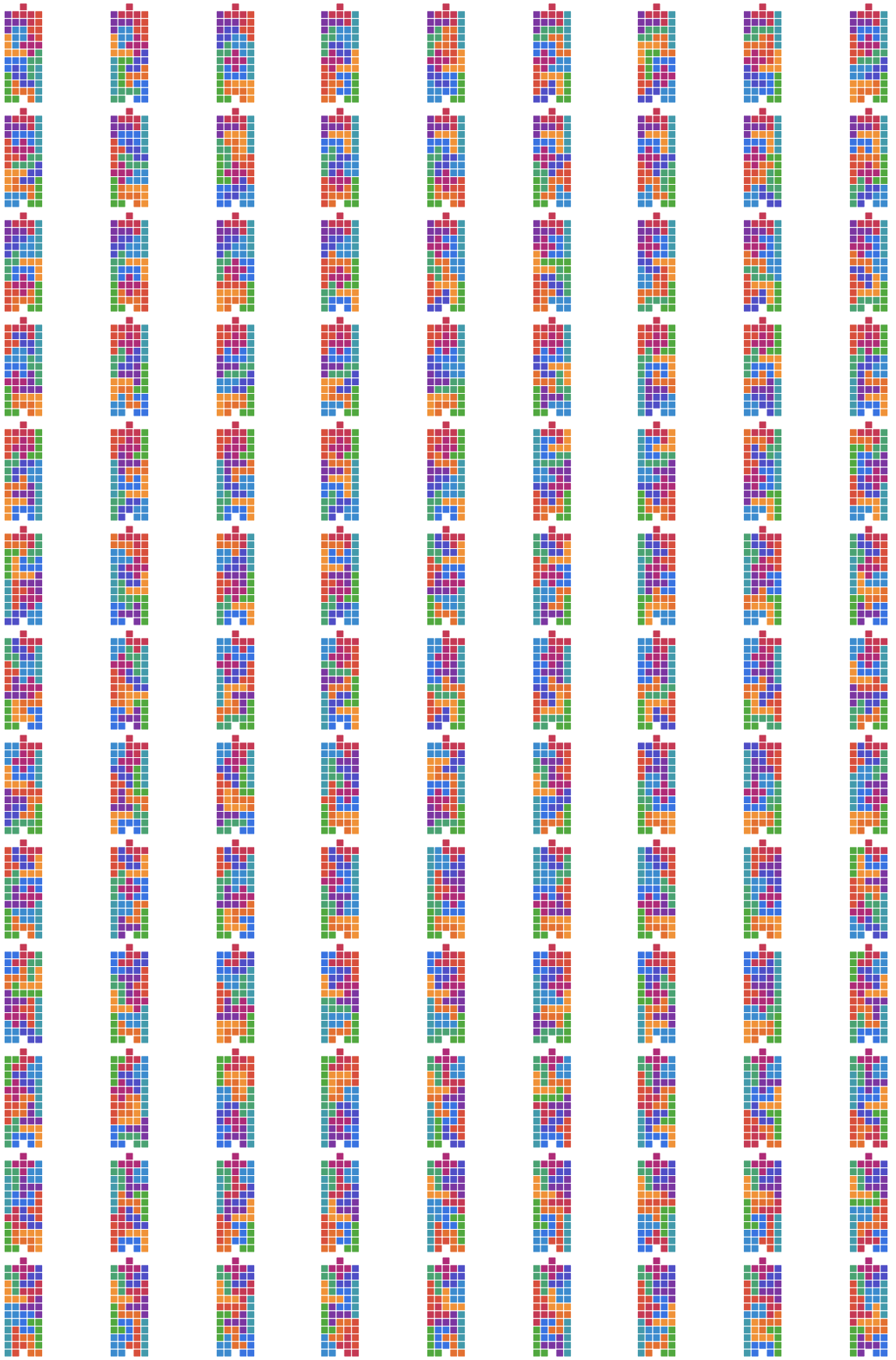


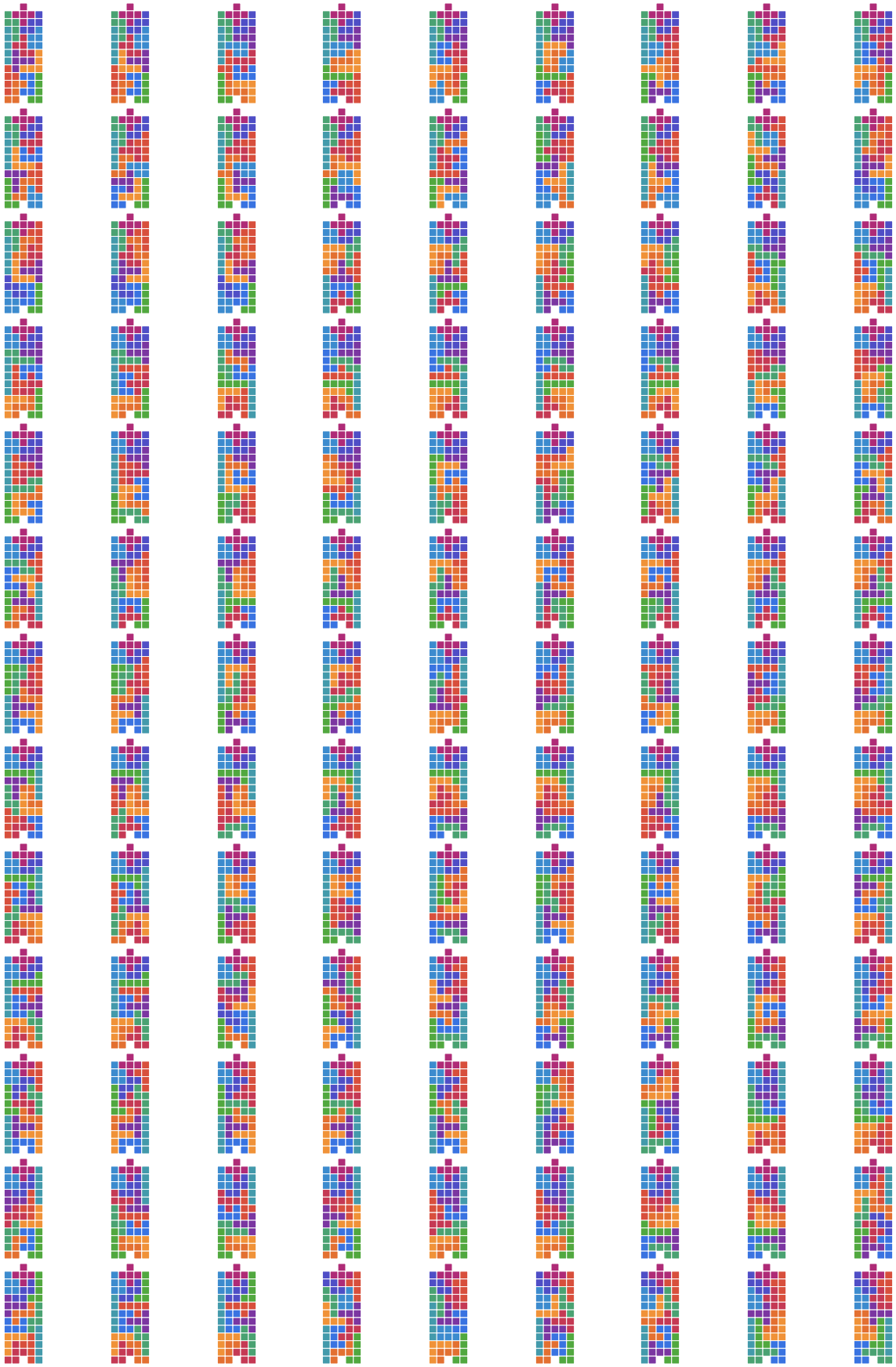


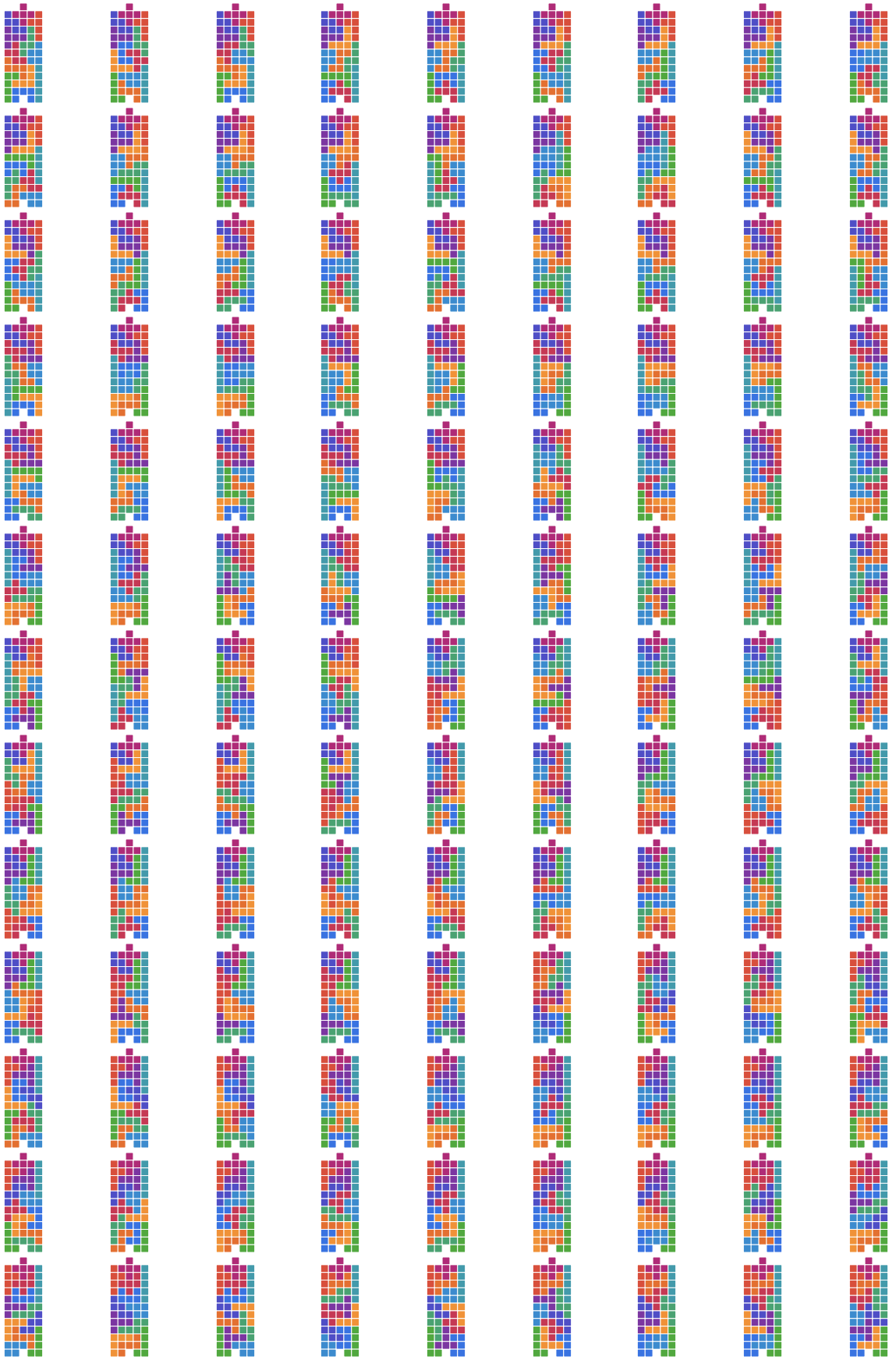
knockout1

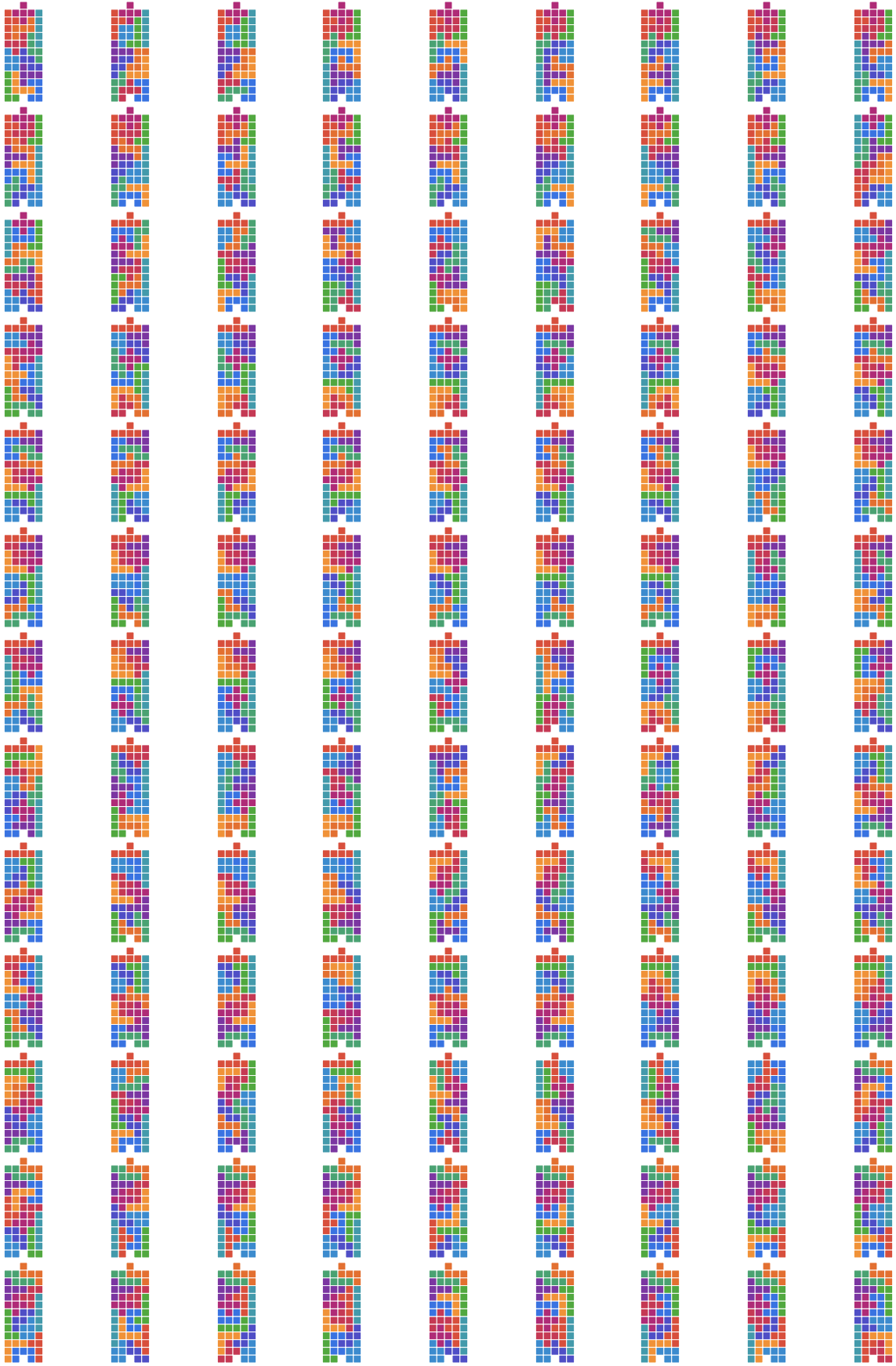
807 Solutions

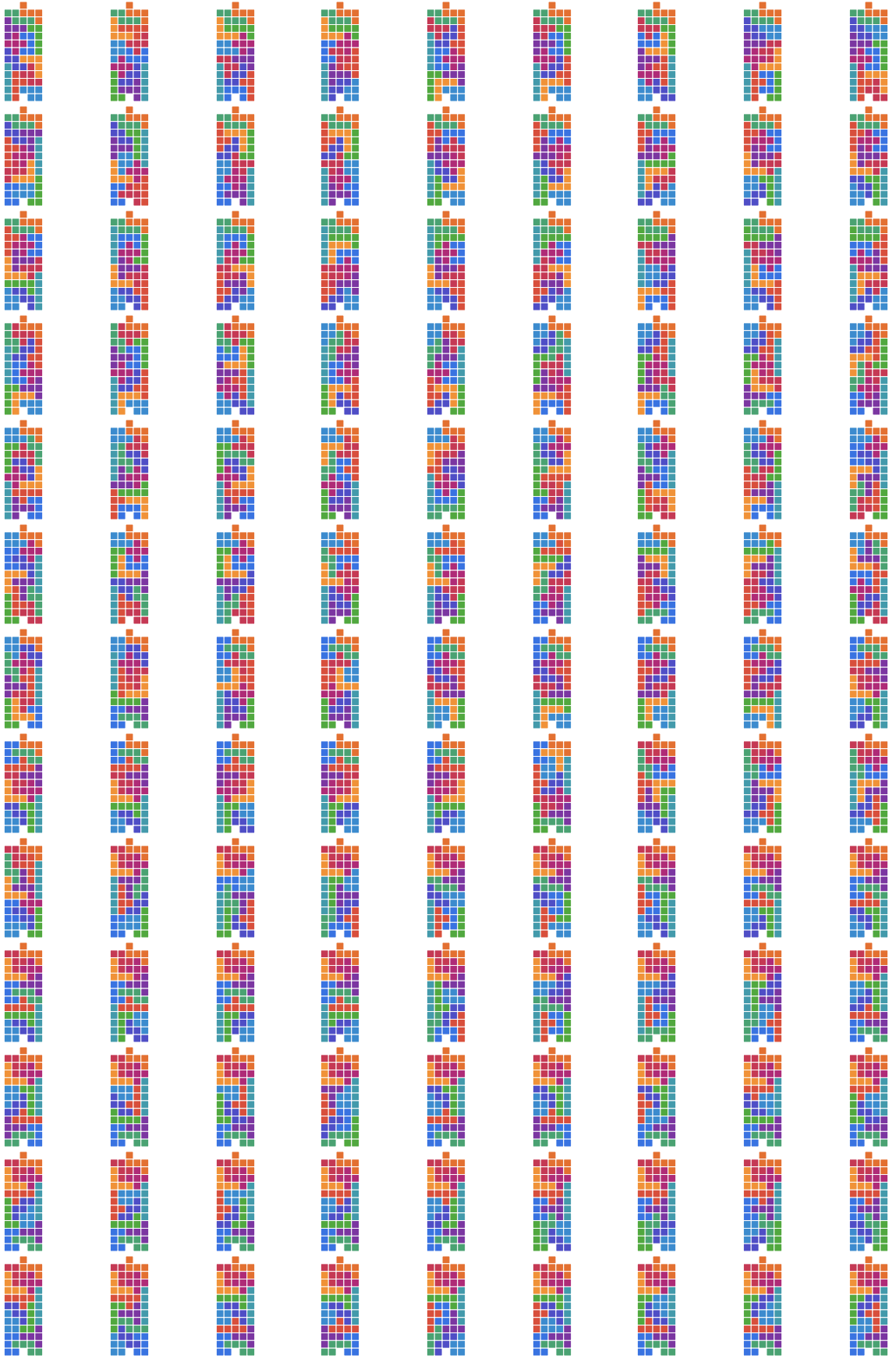


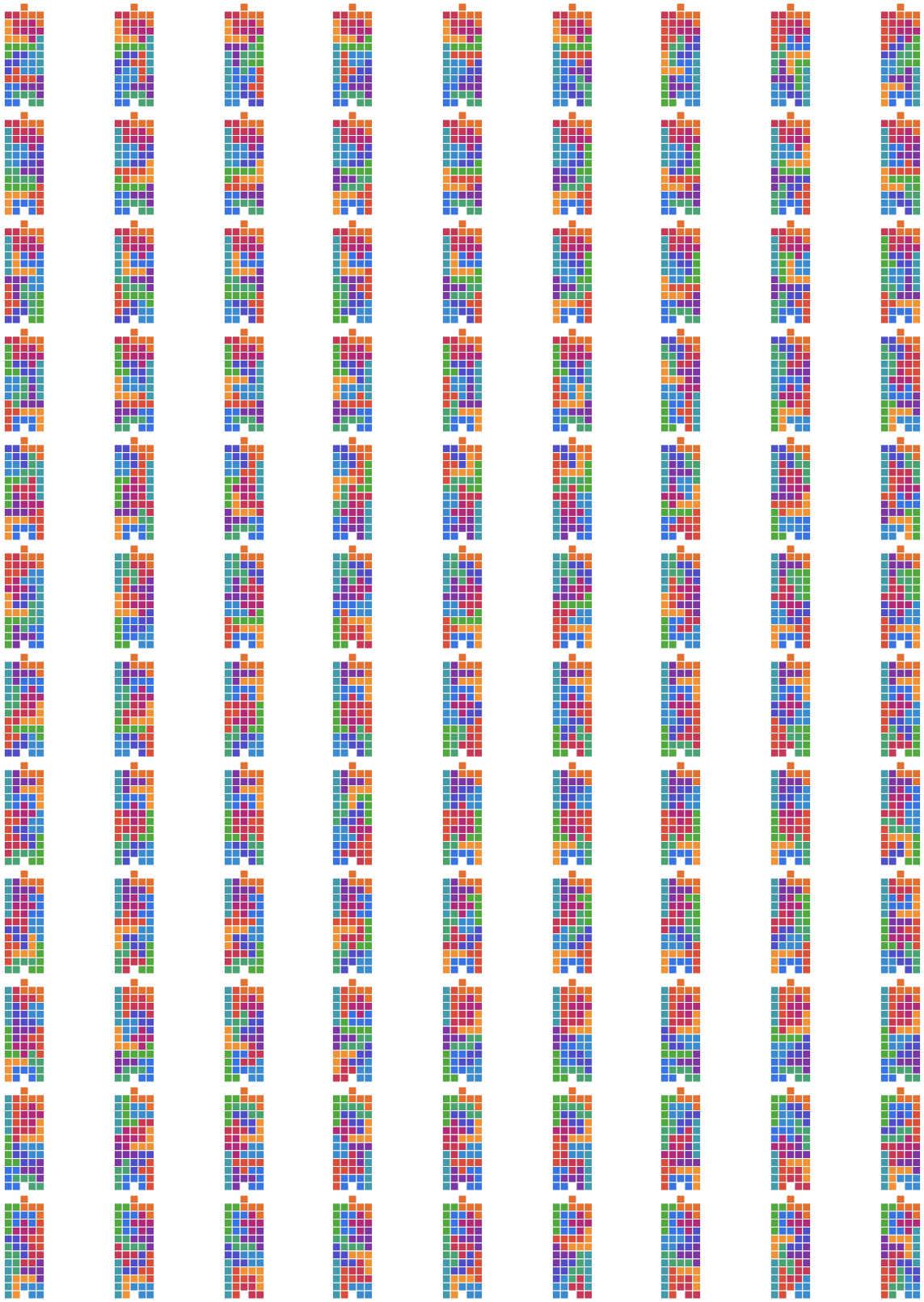


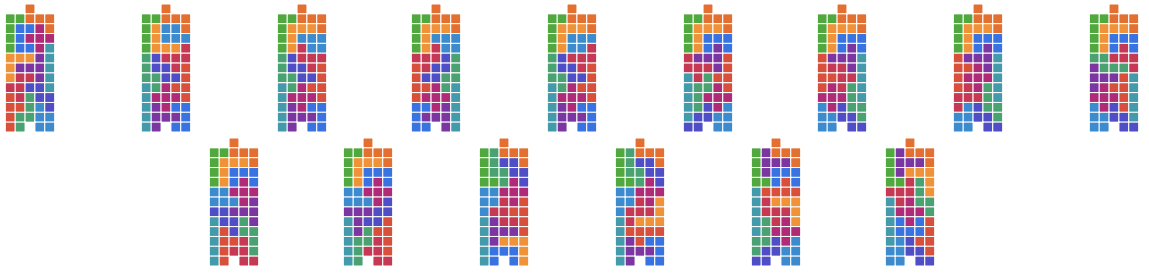


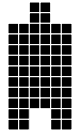






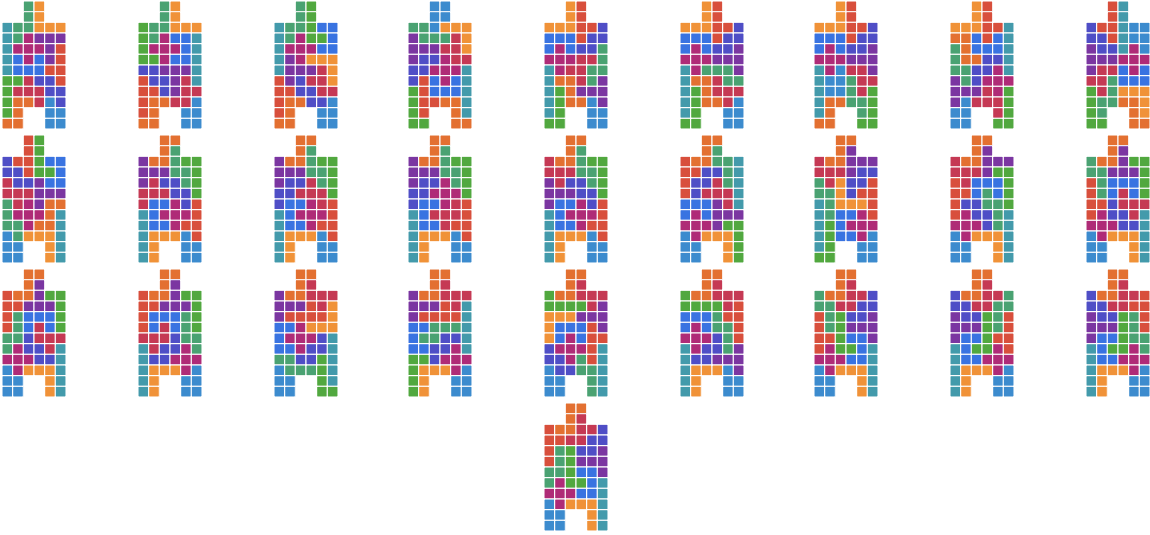


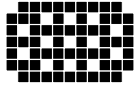




knockout2

28 Solutions

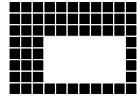




checkers

2 Solutions





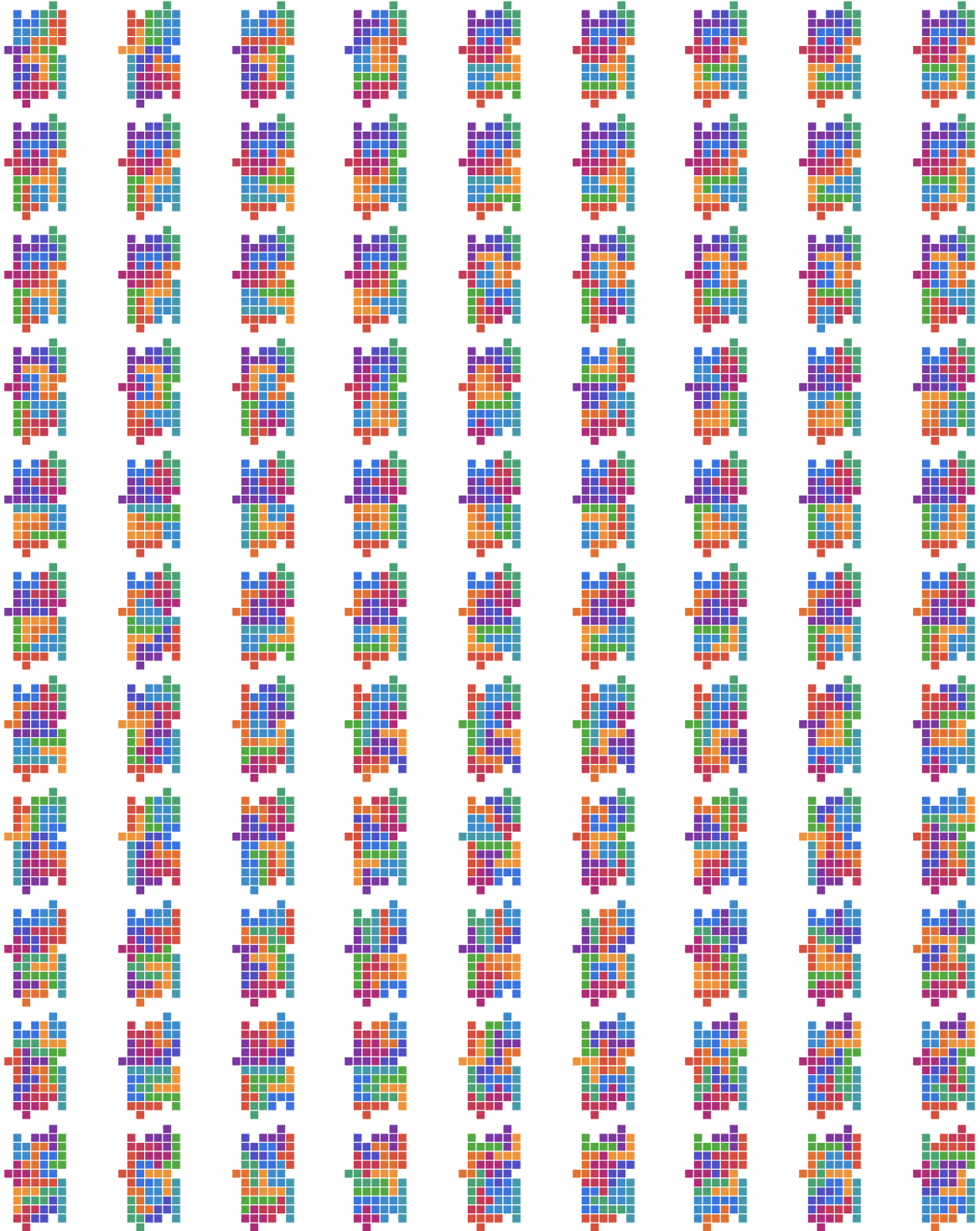
fence1
1 Solution

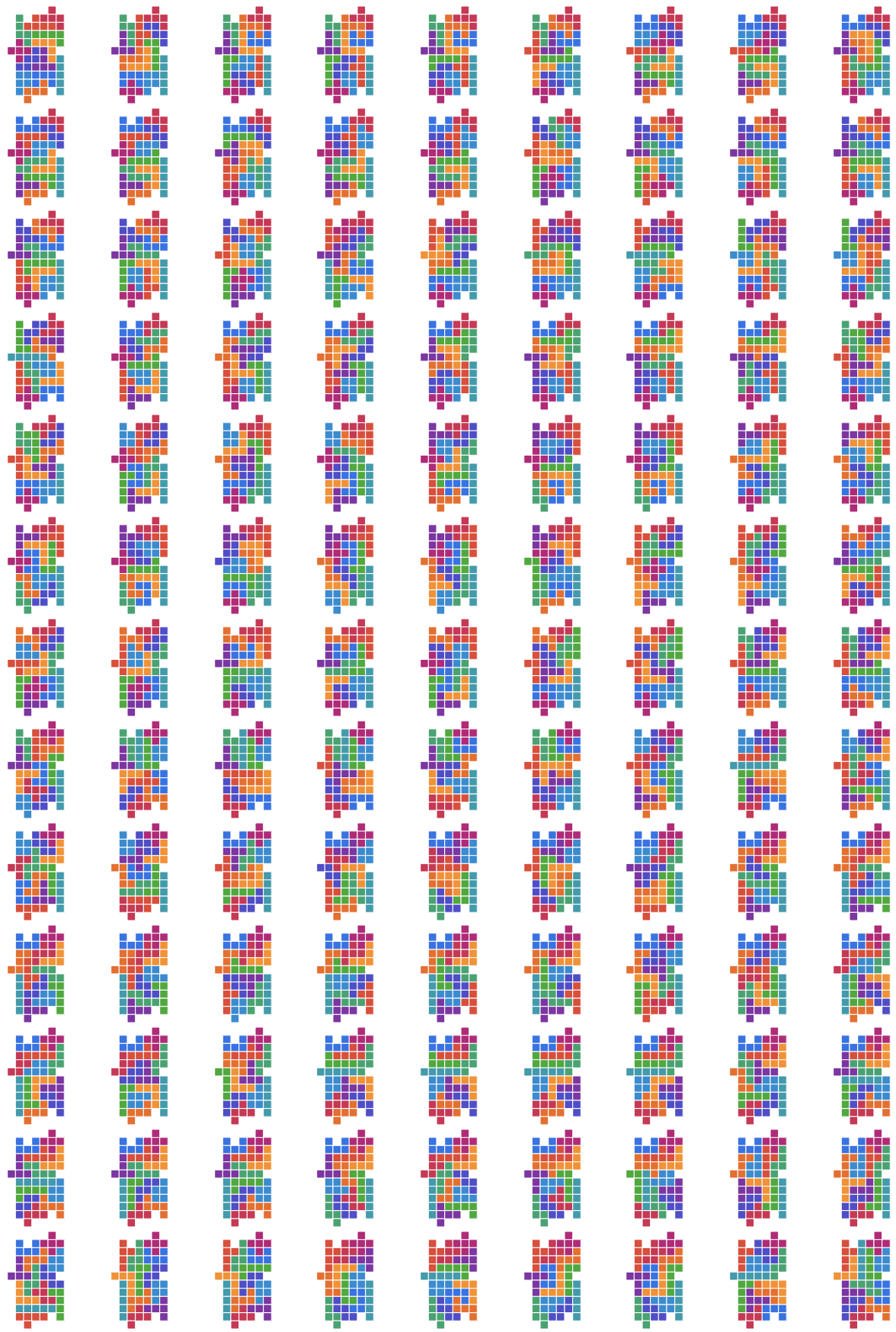


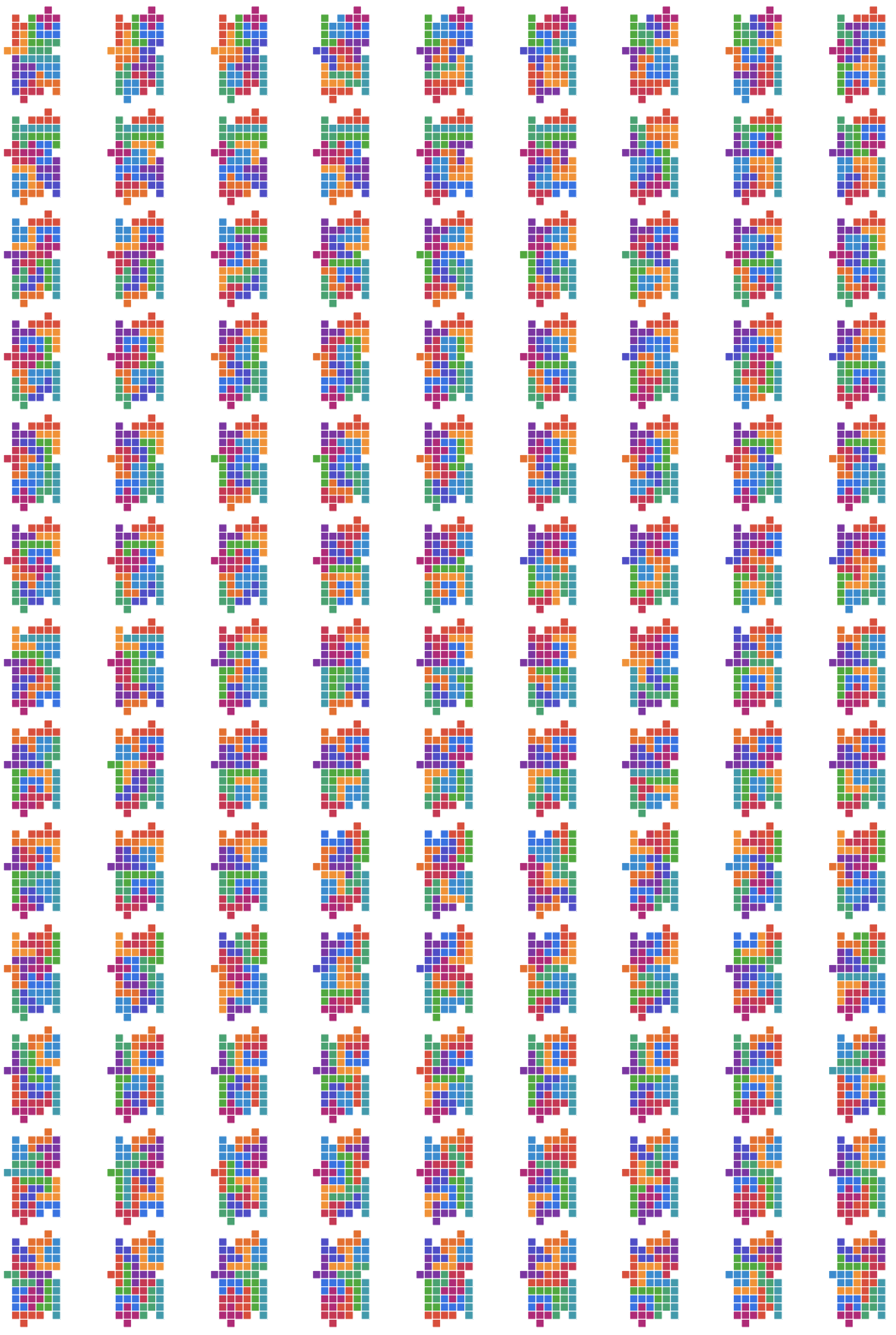


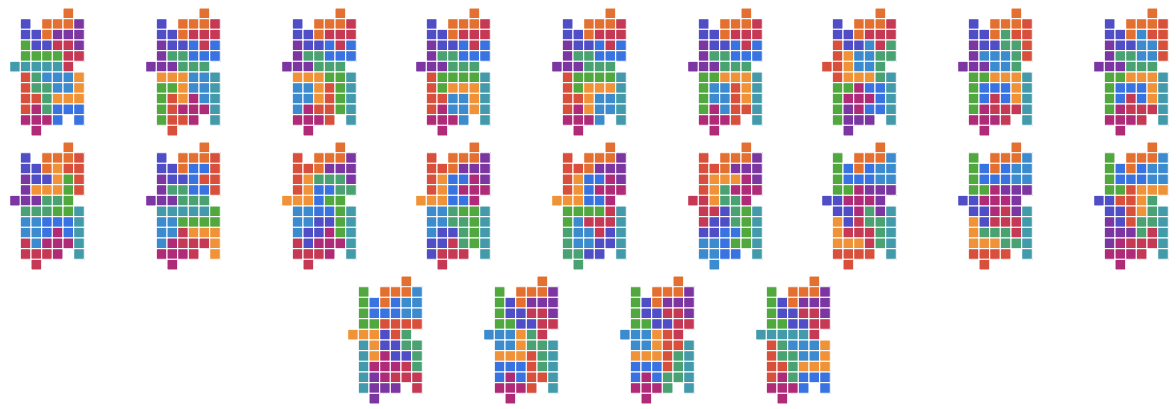
tile1

355 Solutions

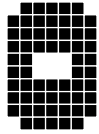






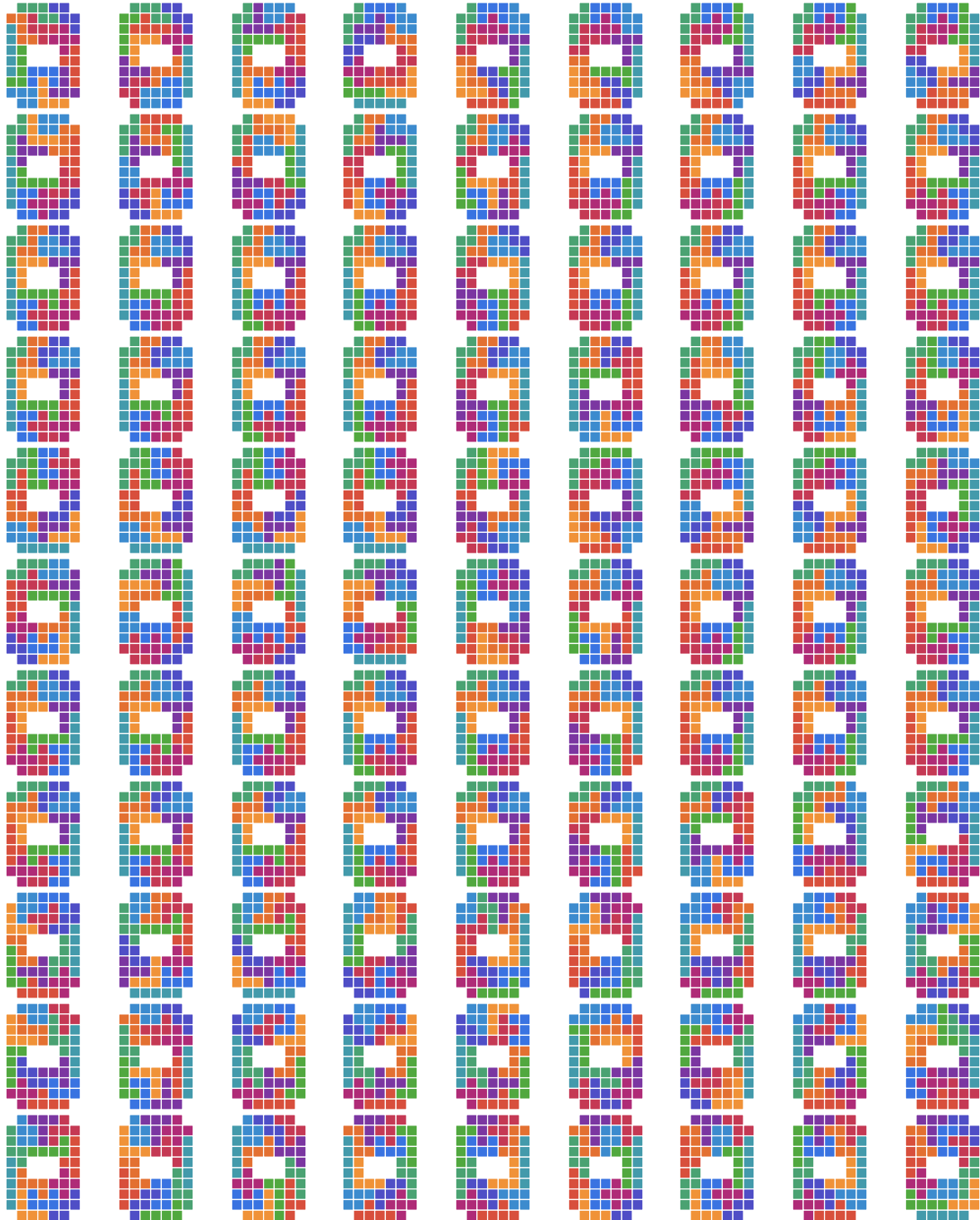


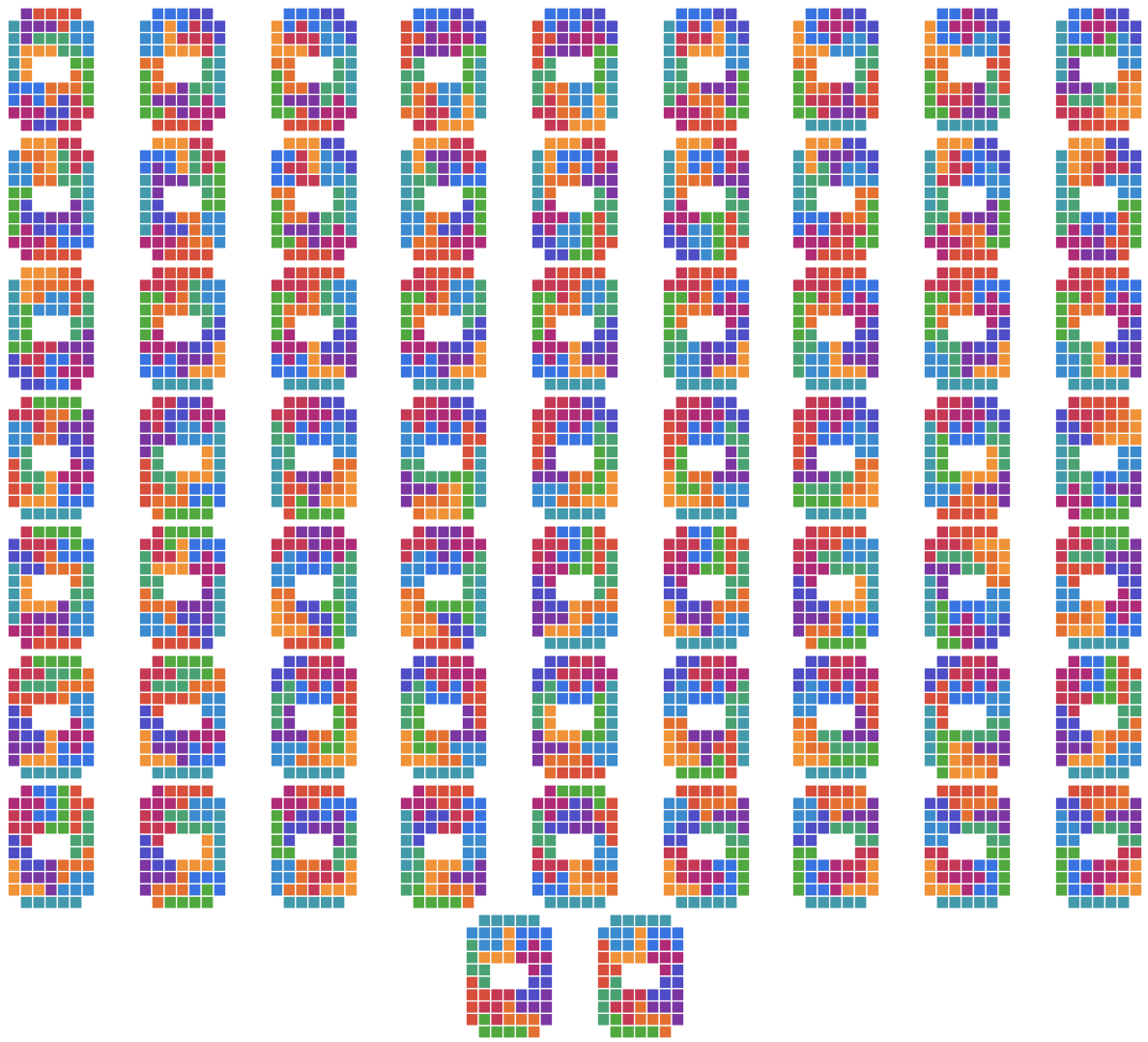




window

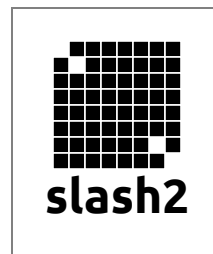
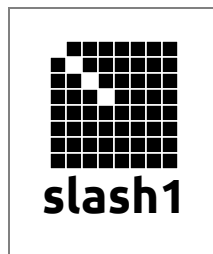
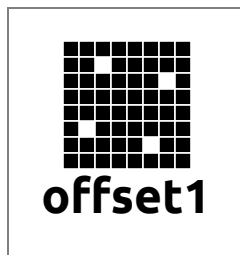
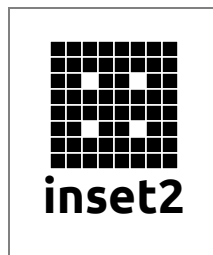
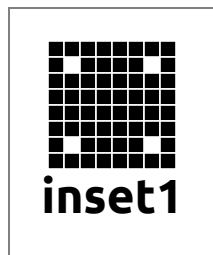
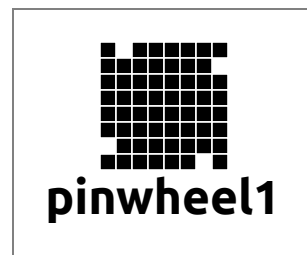
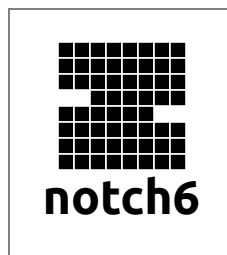
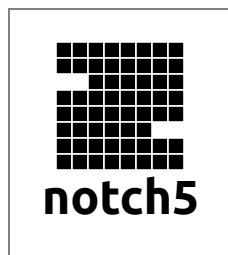
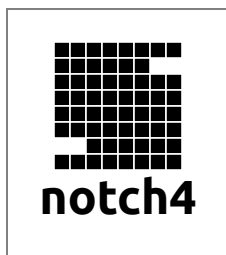
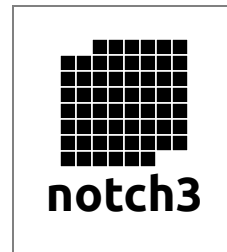
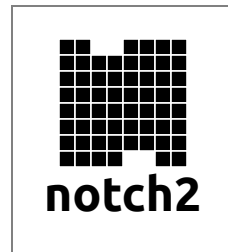
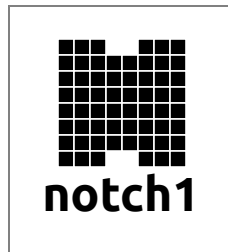
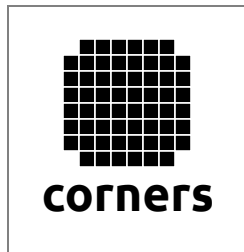
164 Solutions

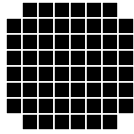




8x8 Square

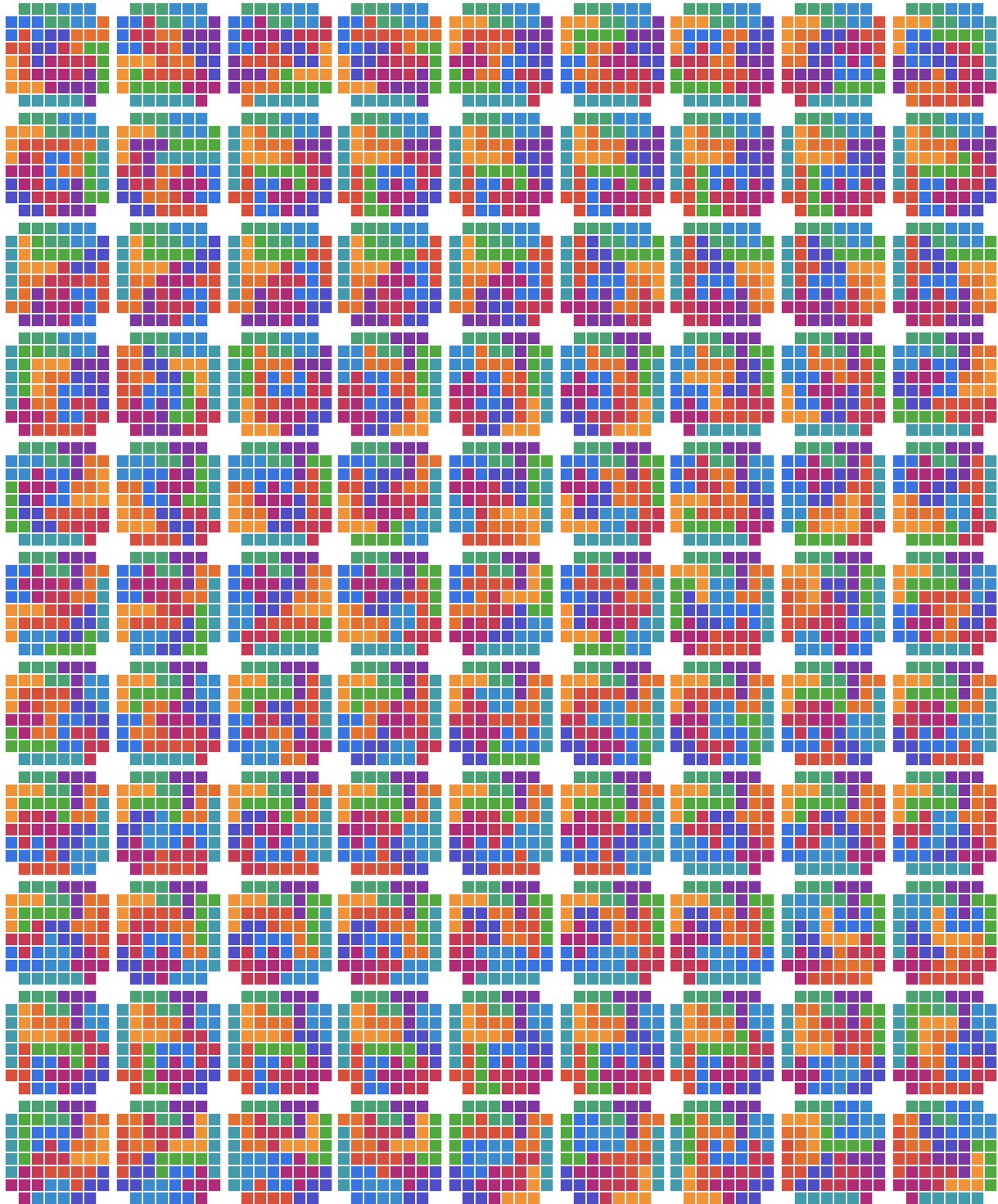
All of these shapes are basically an 8x8 square with four blocks missing.

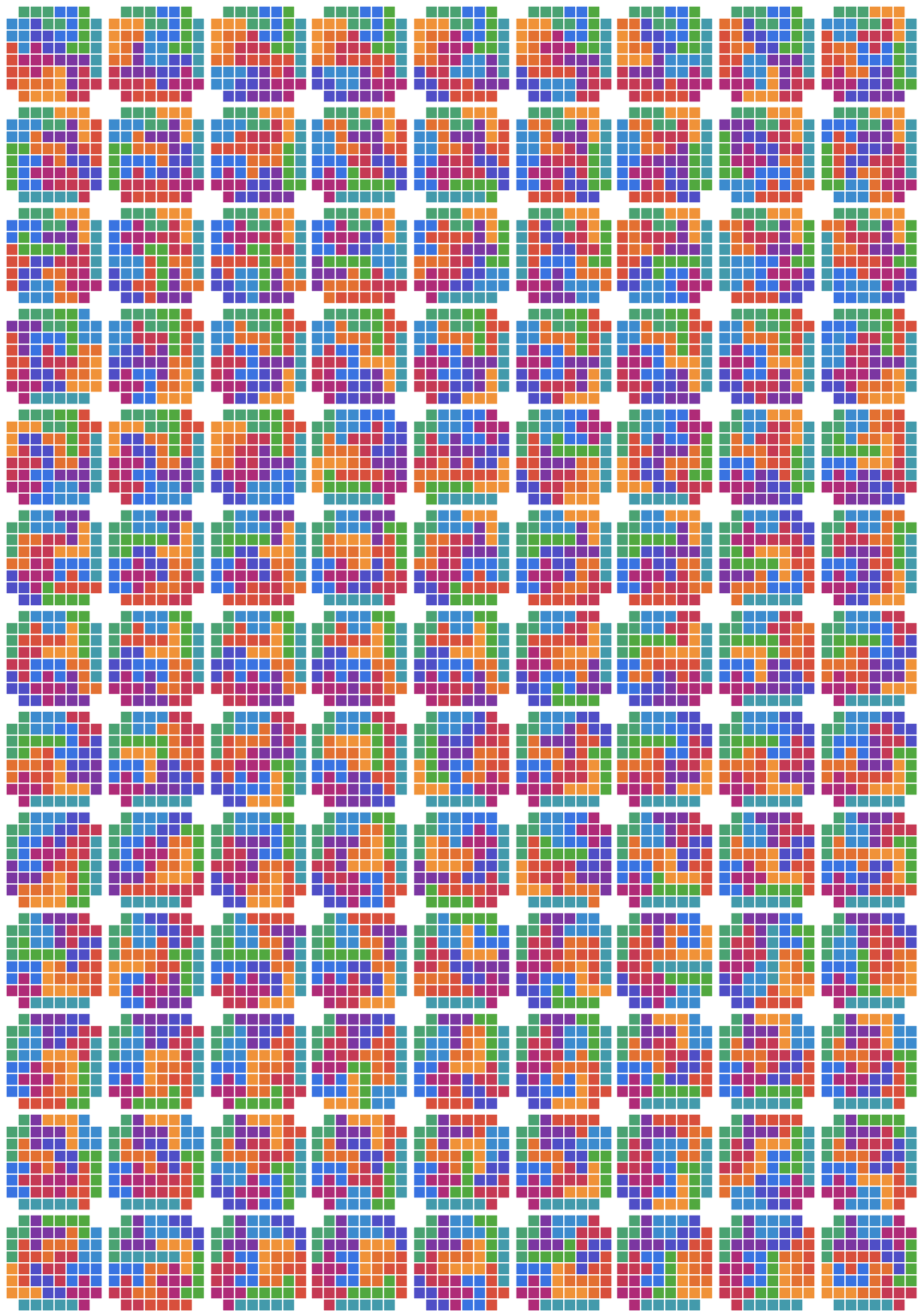


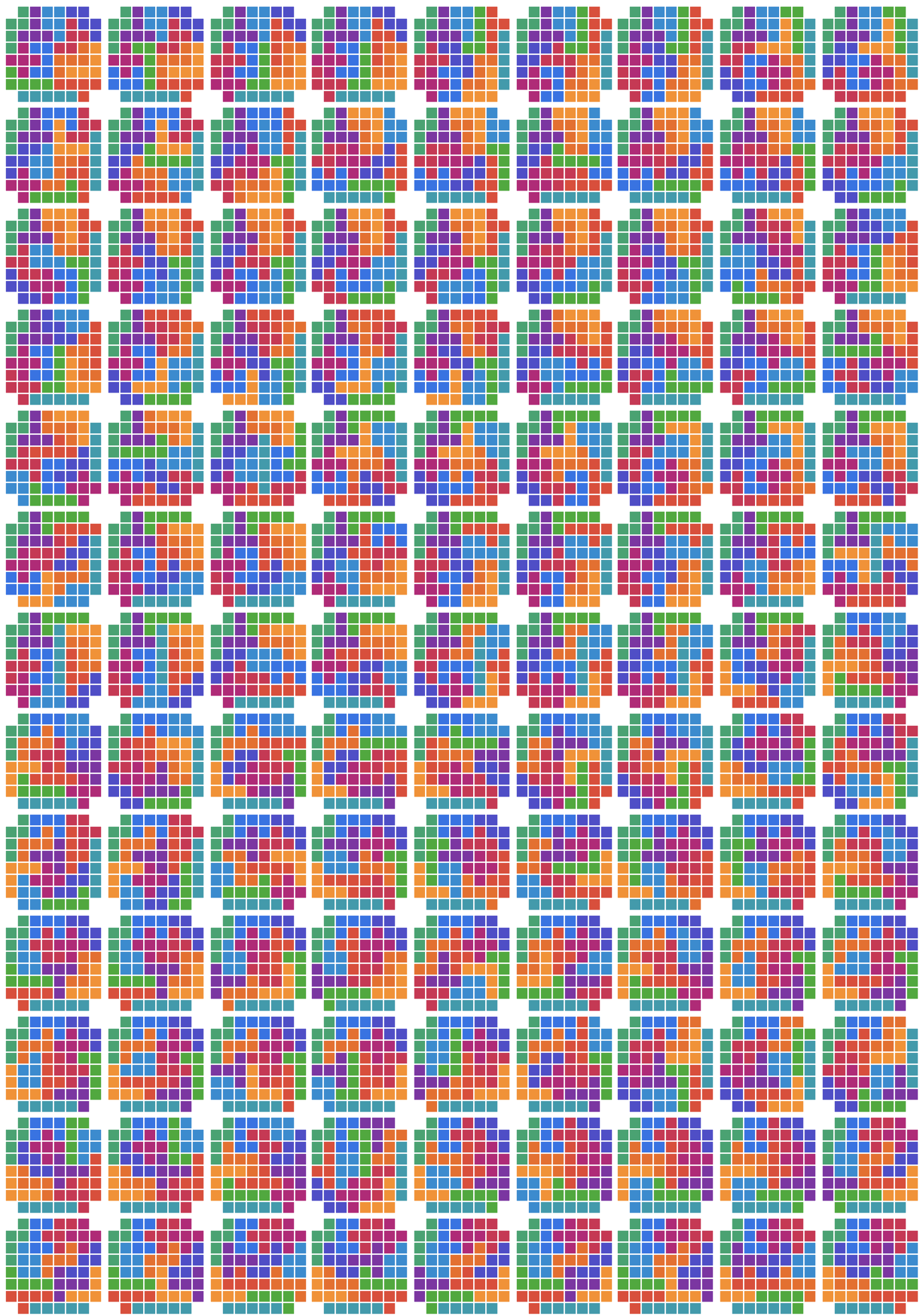


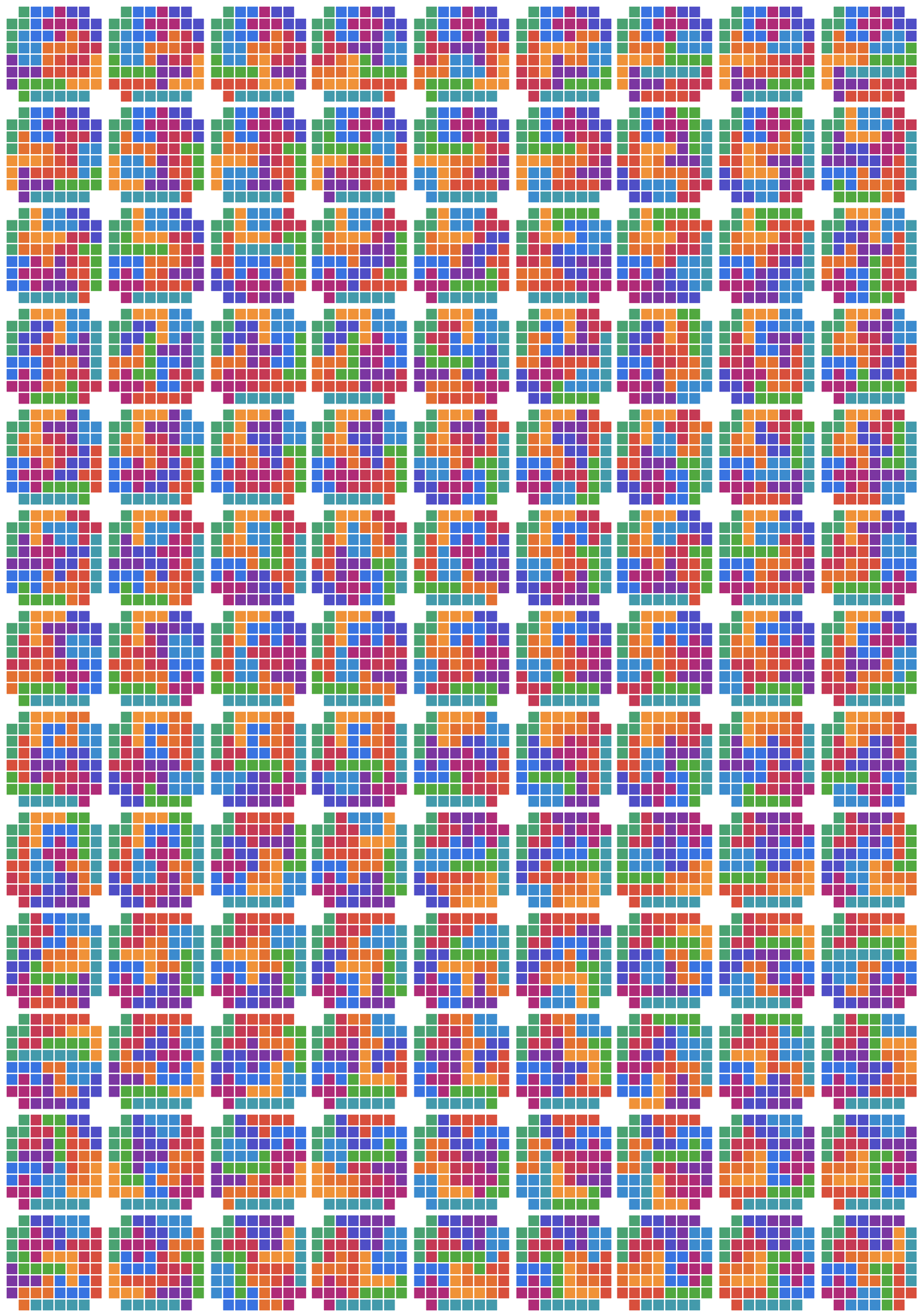
corners

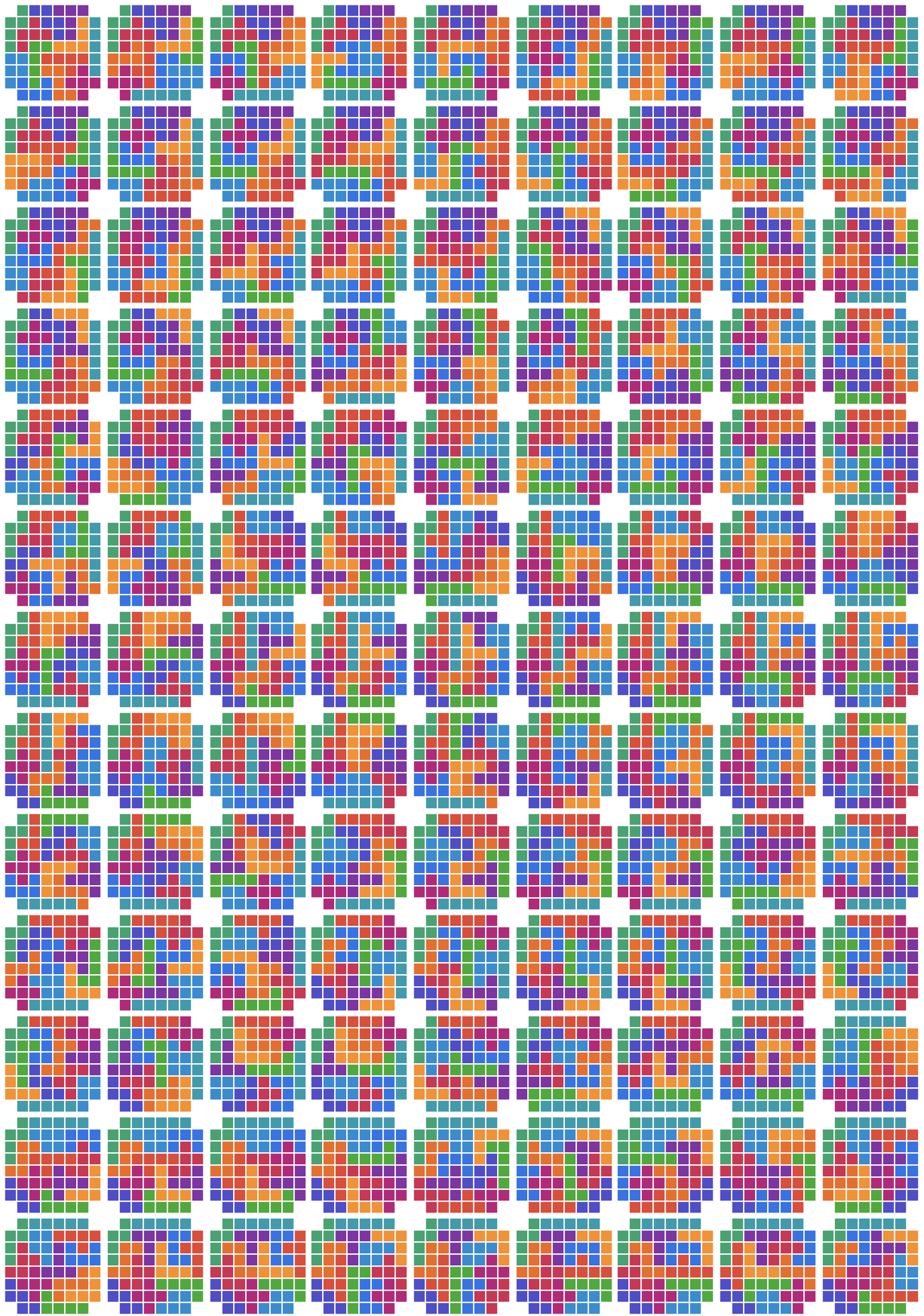
2,170 Solutions

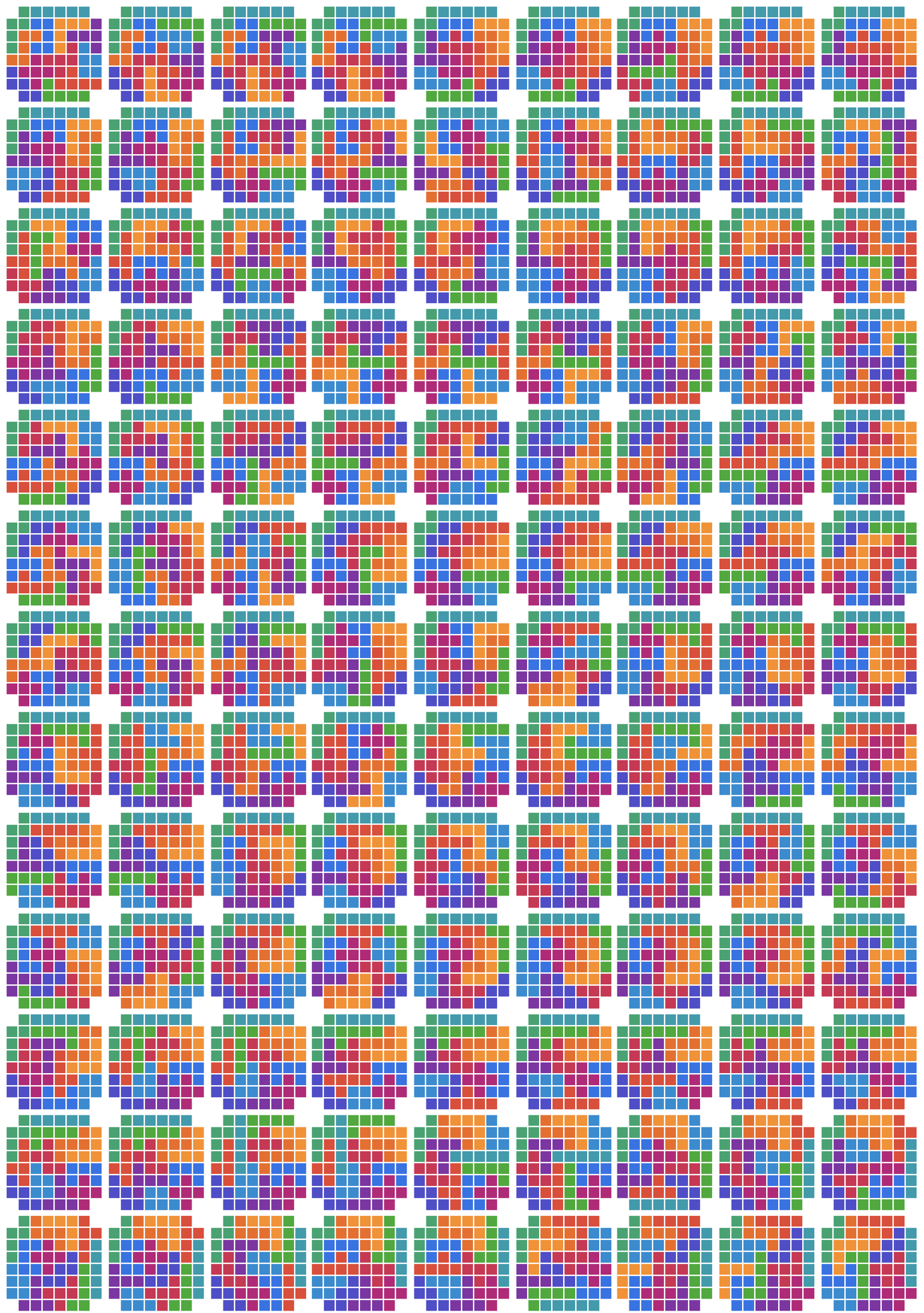


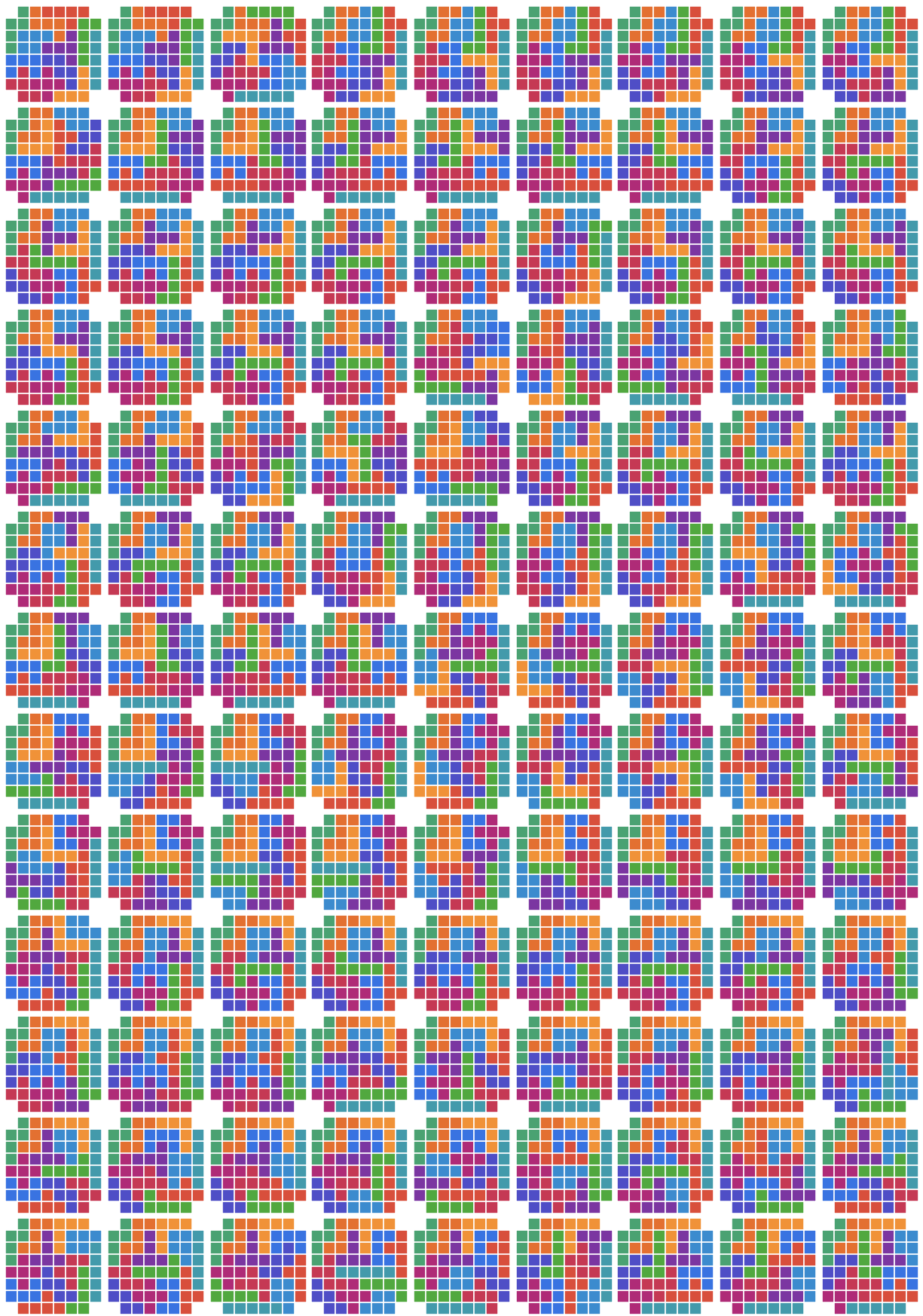


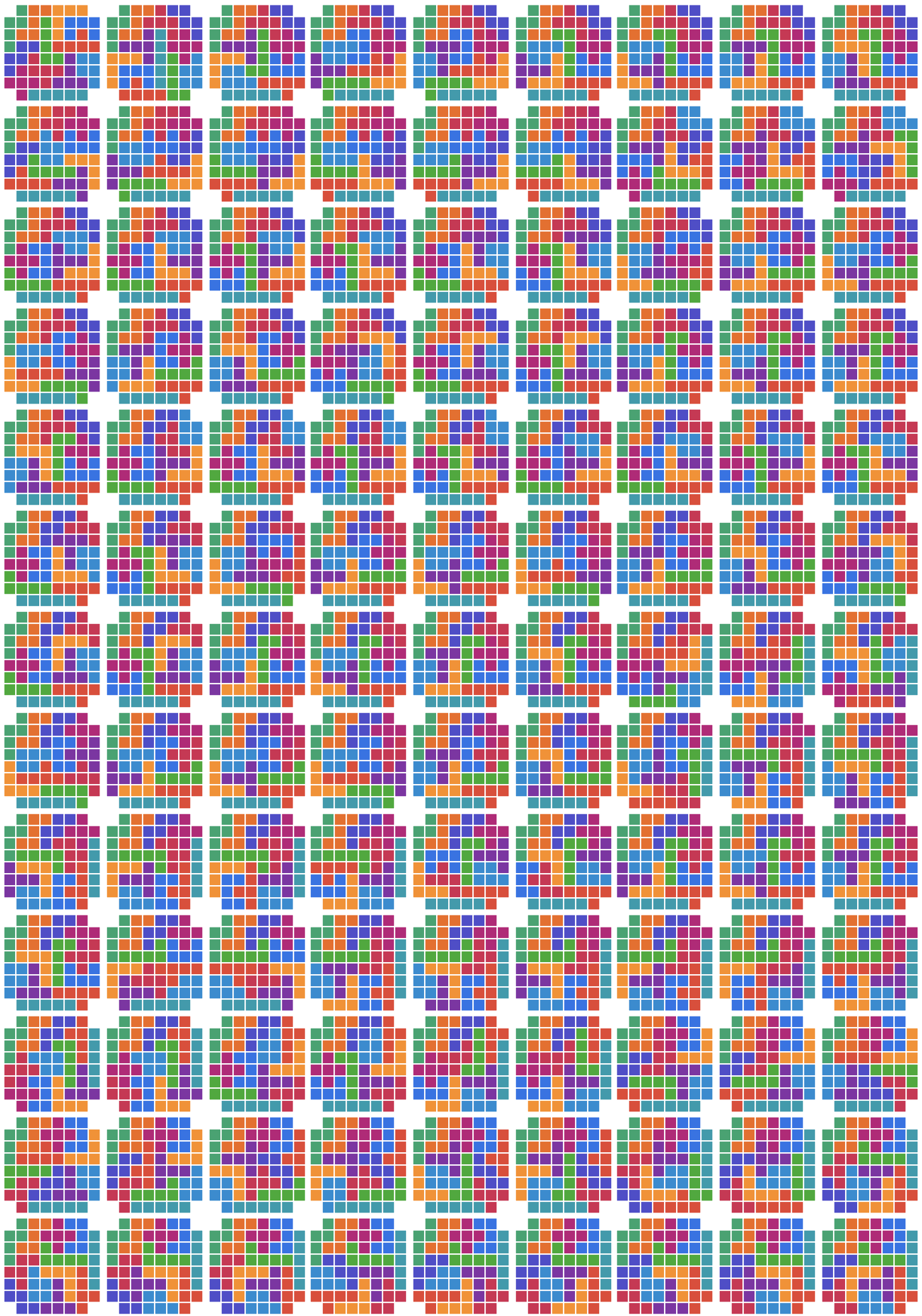


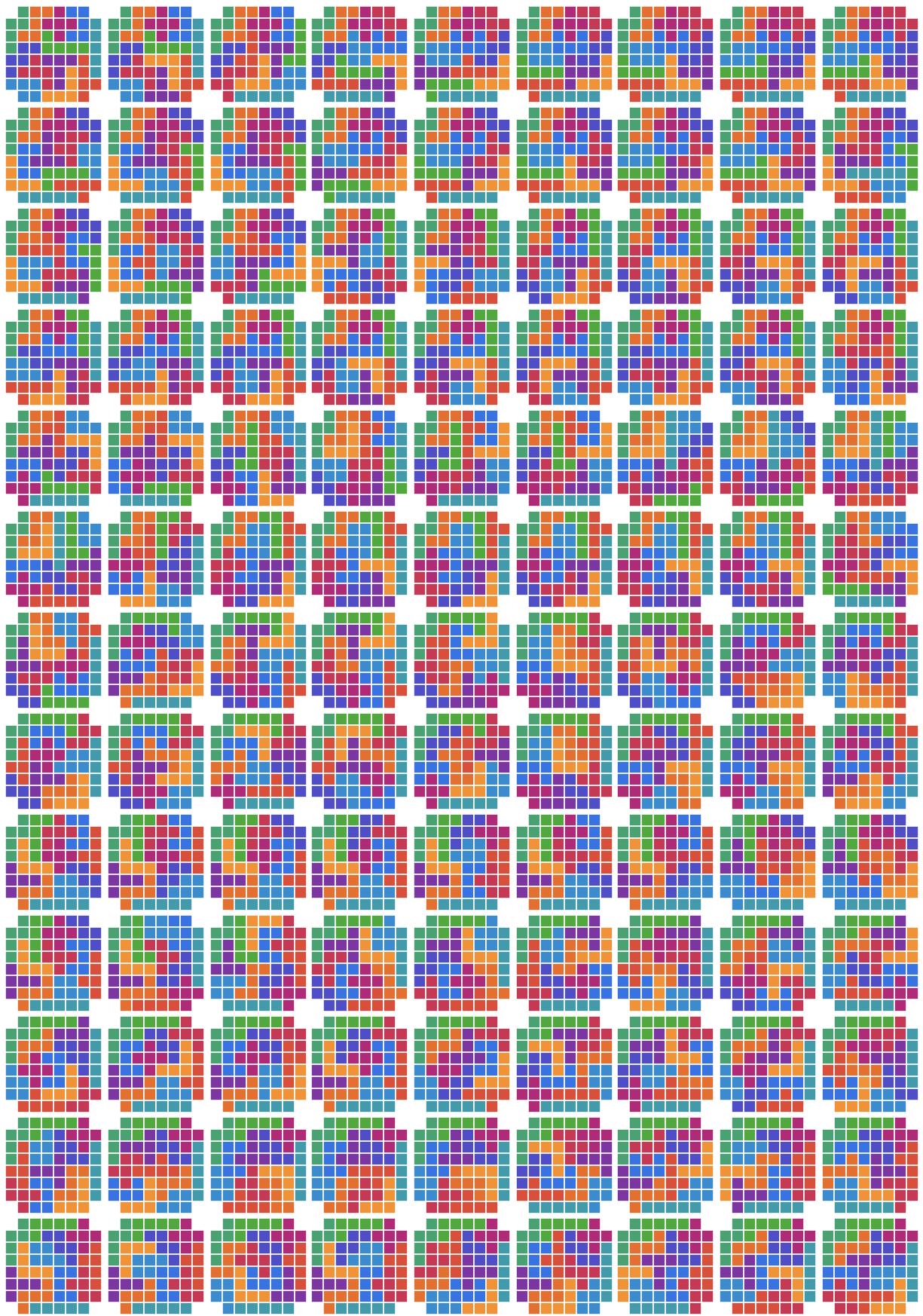


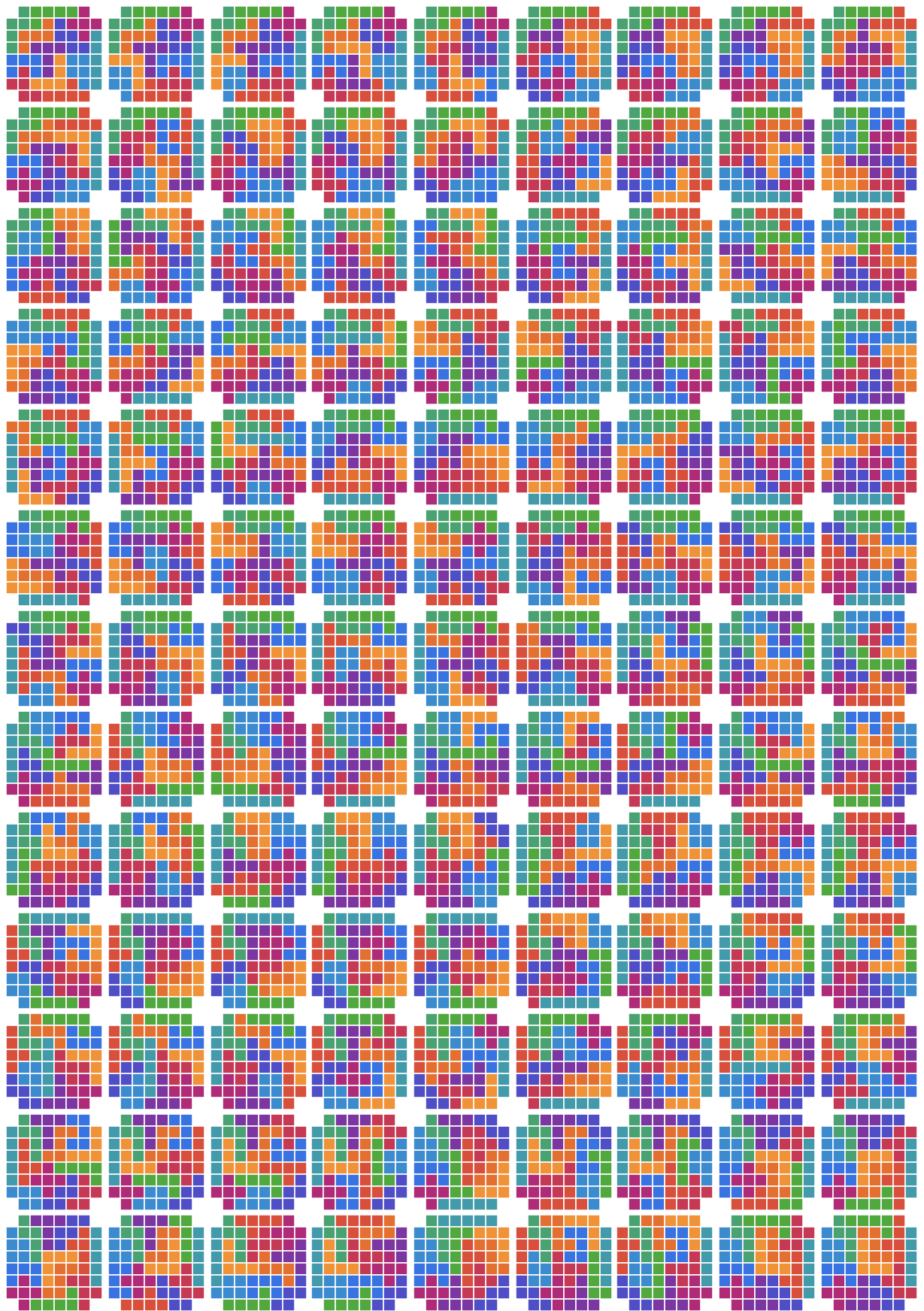


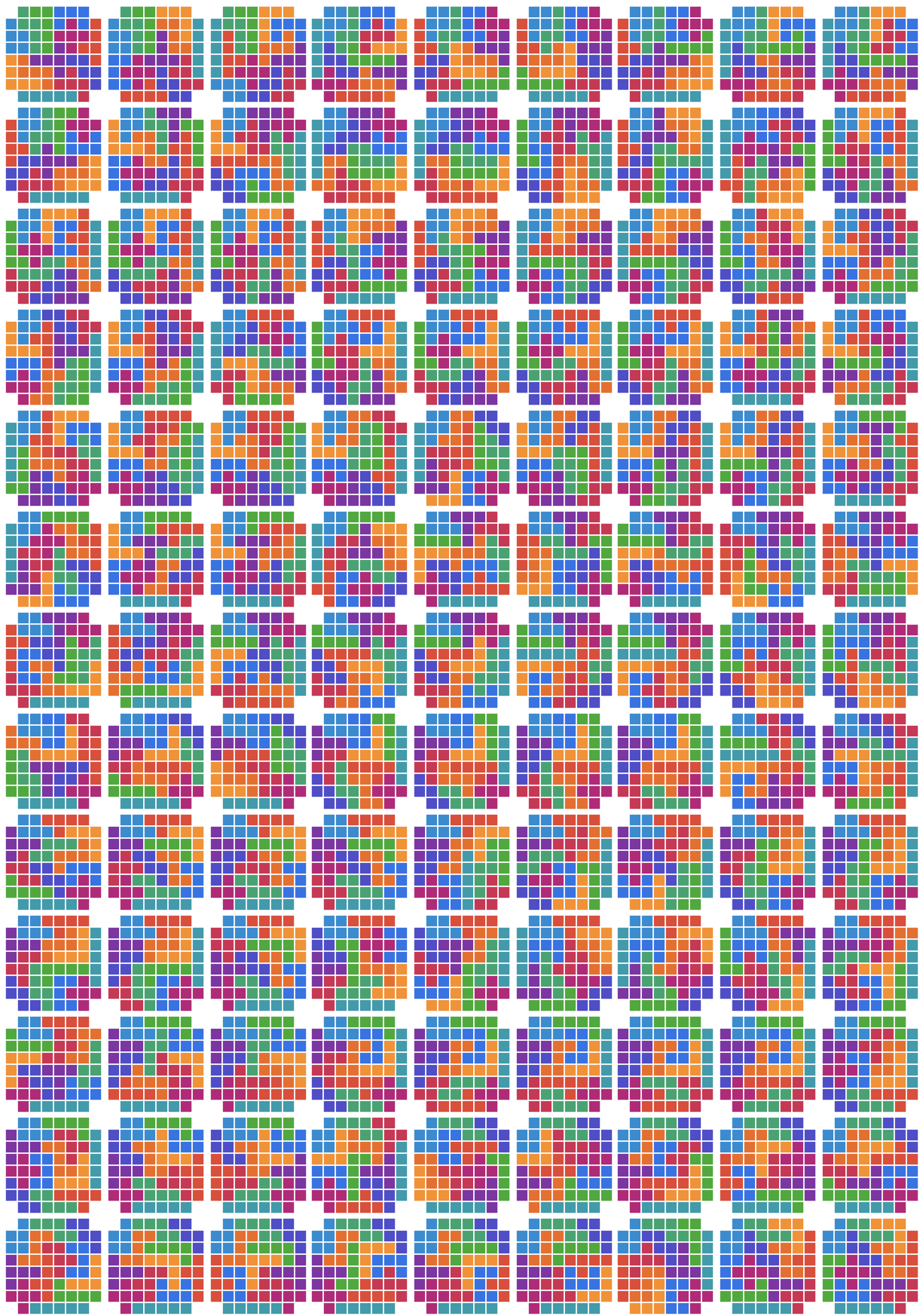


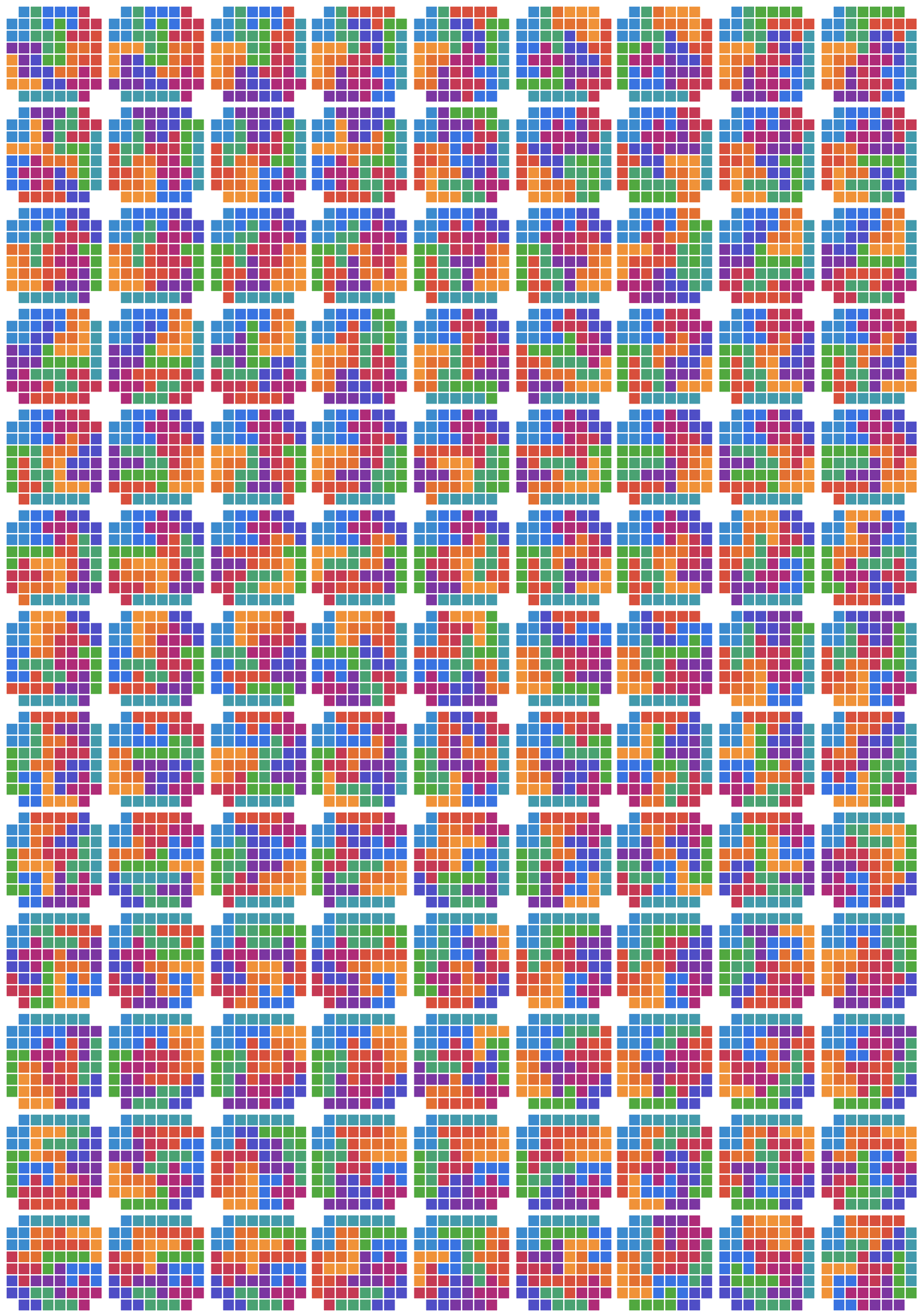


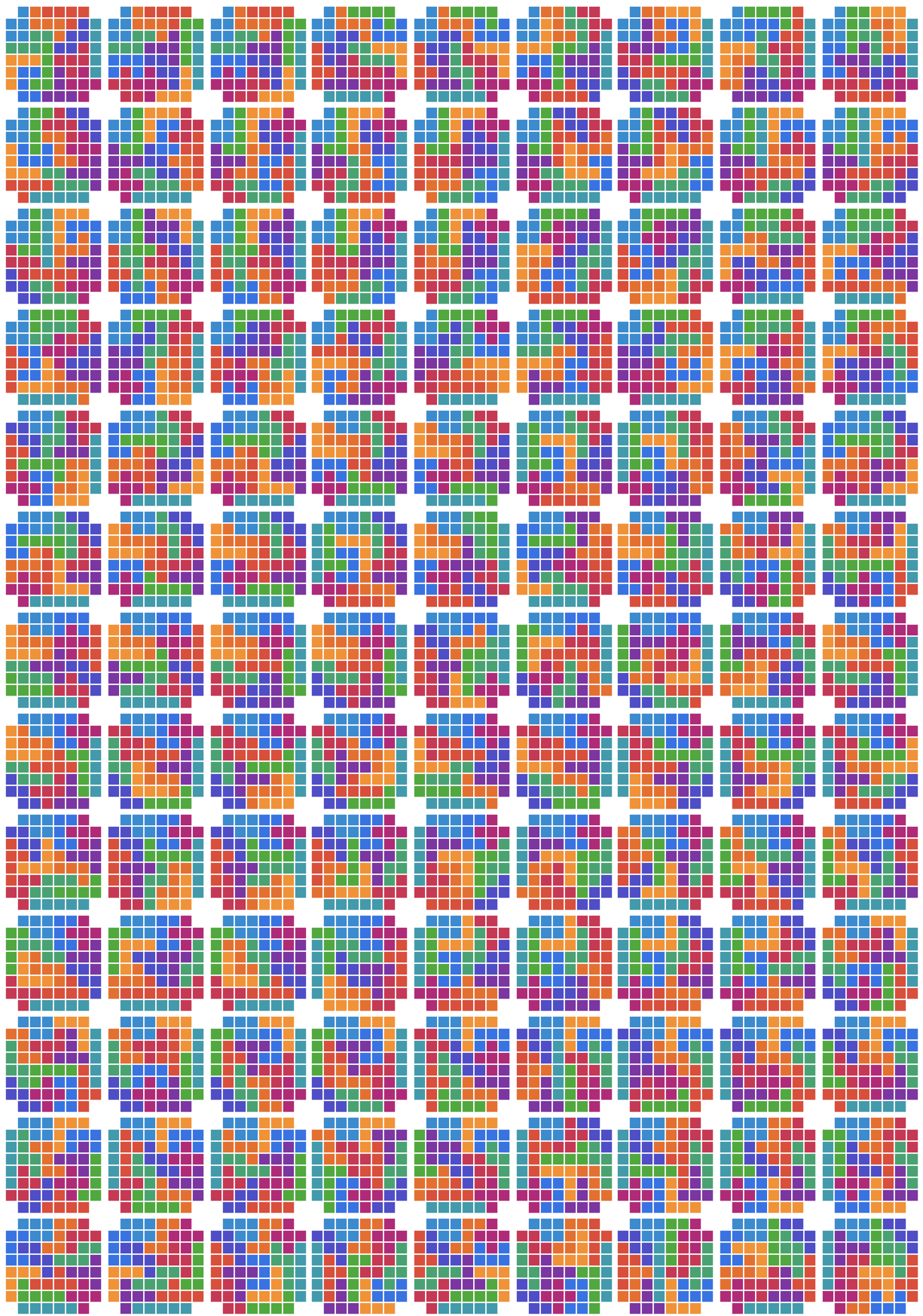


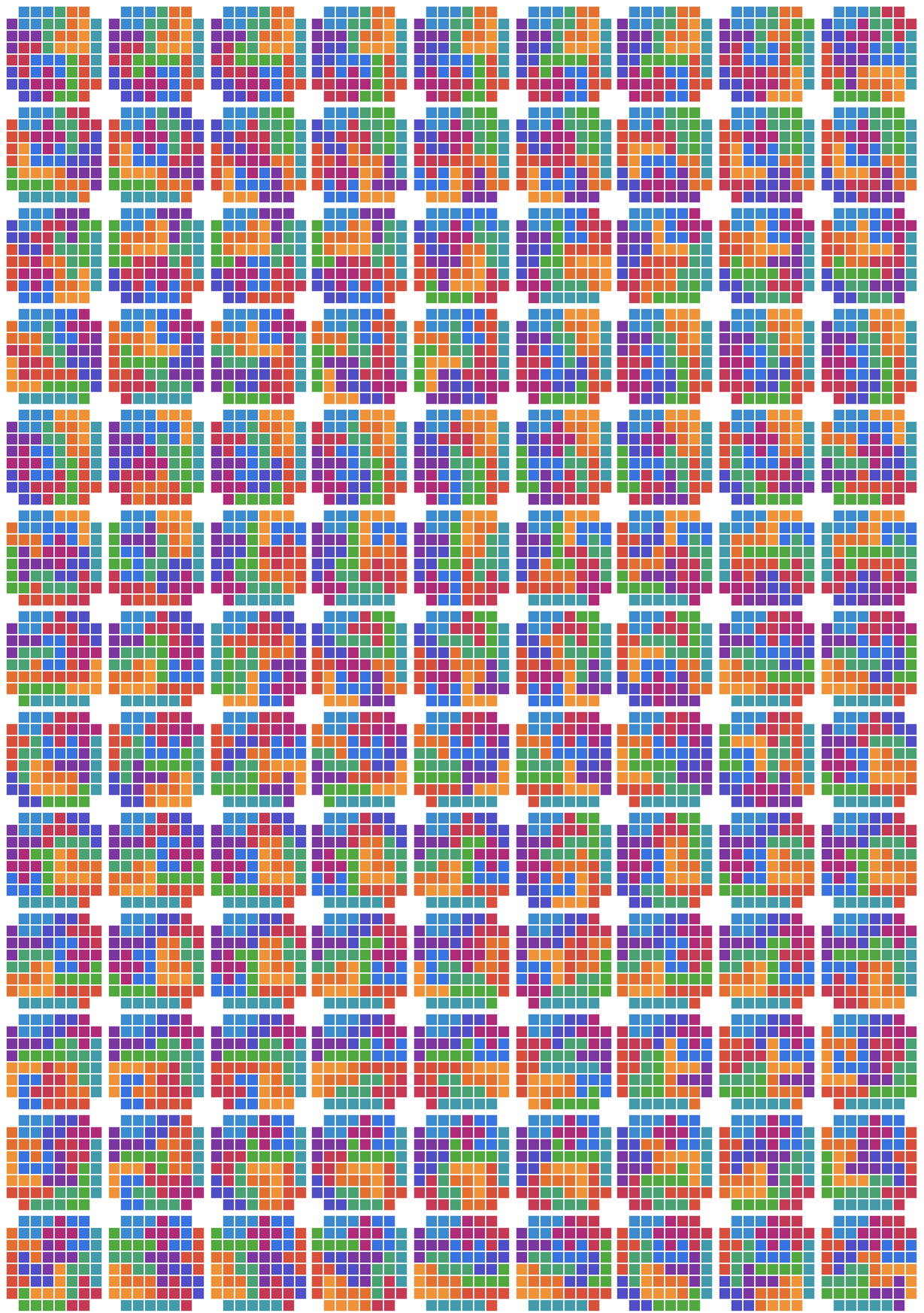


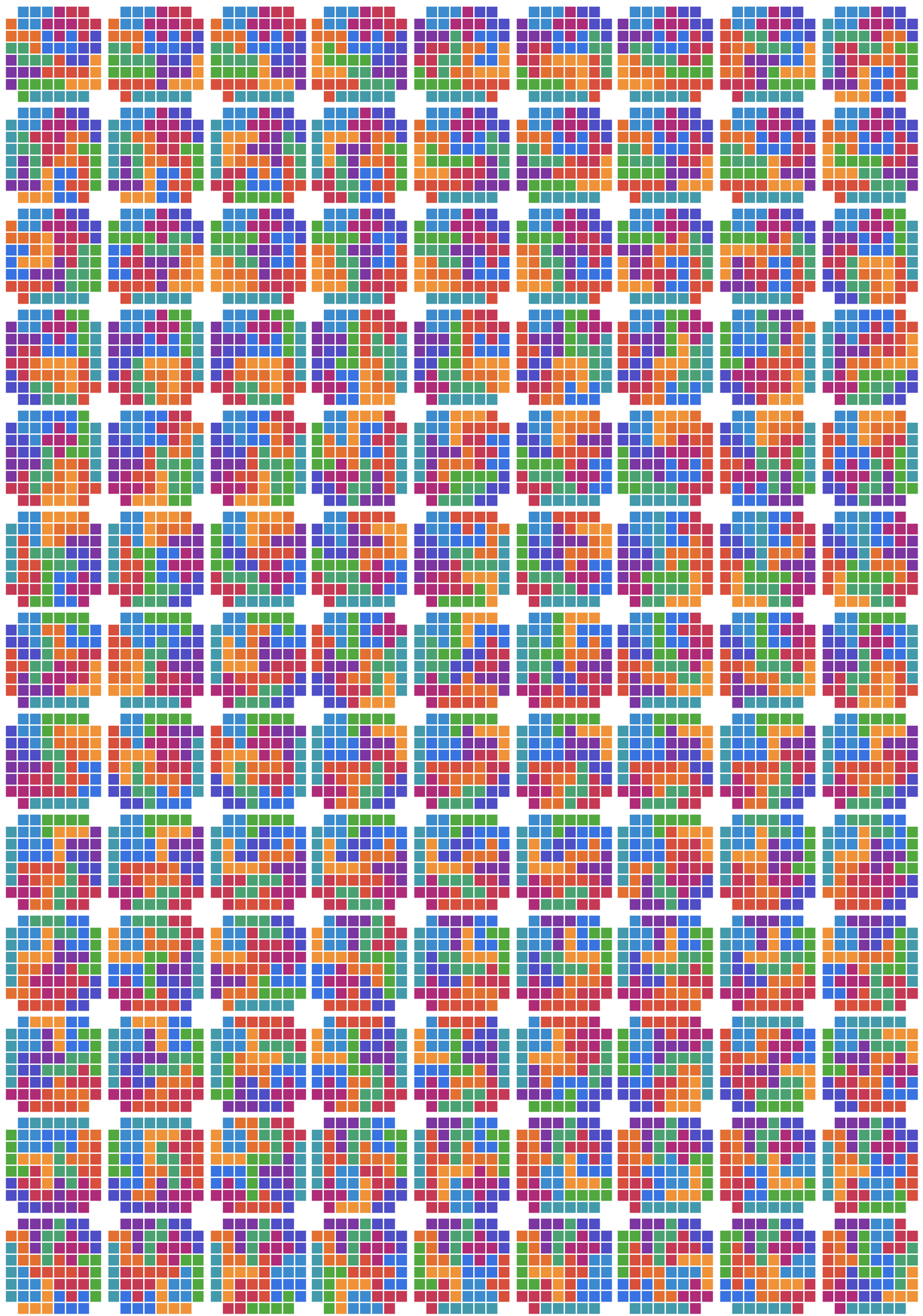


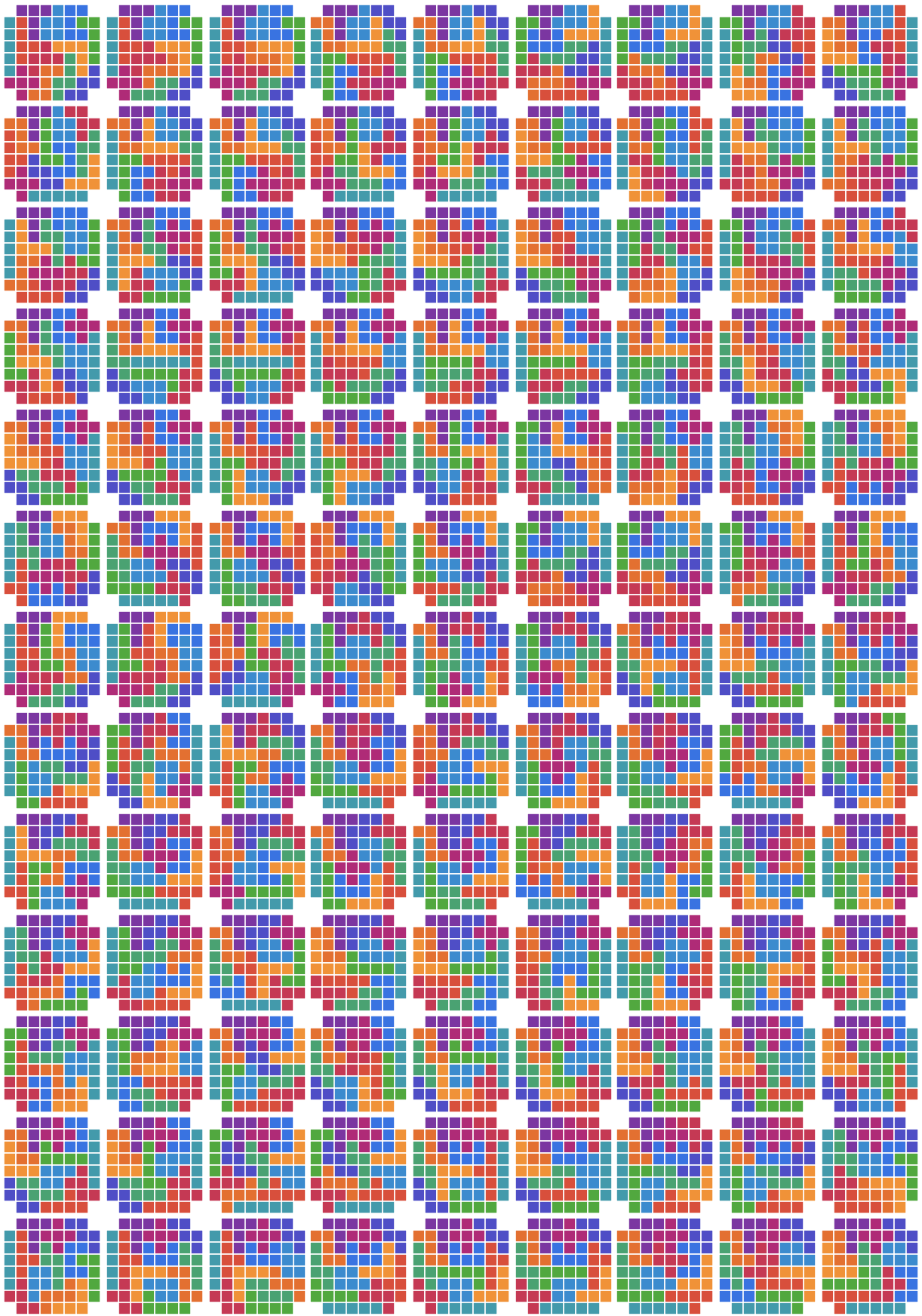


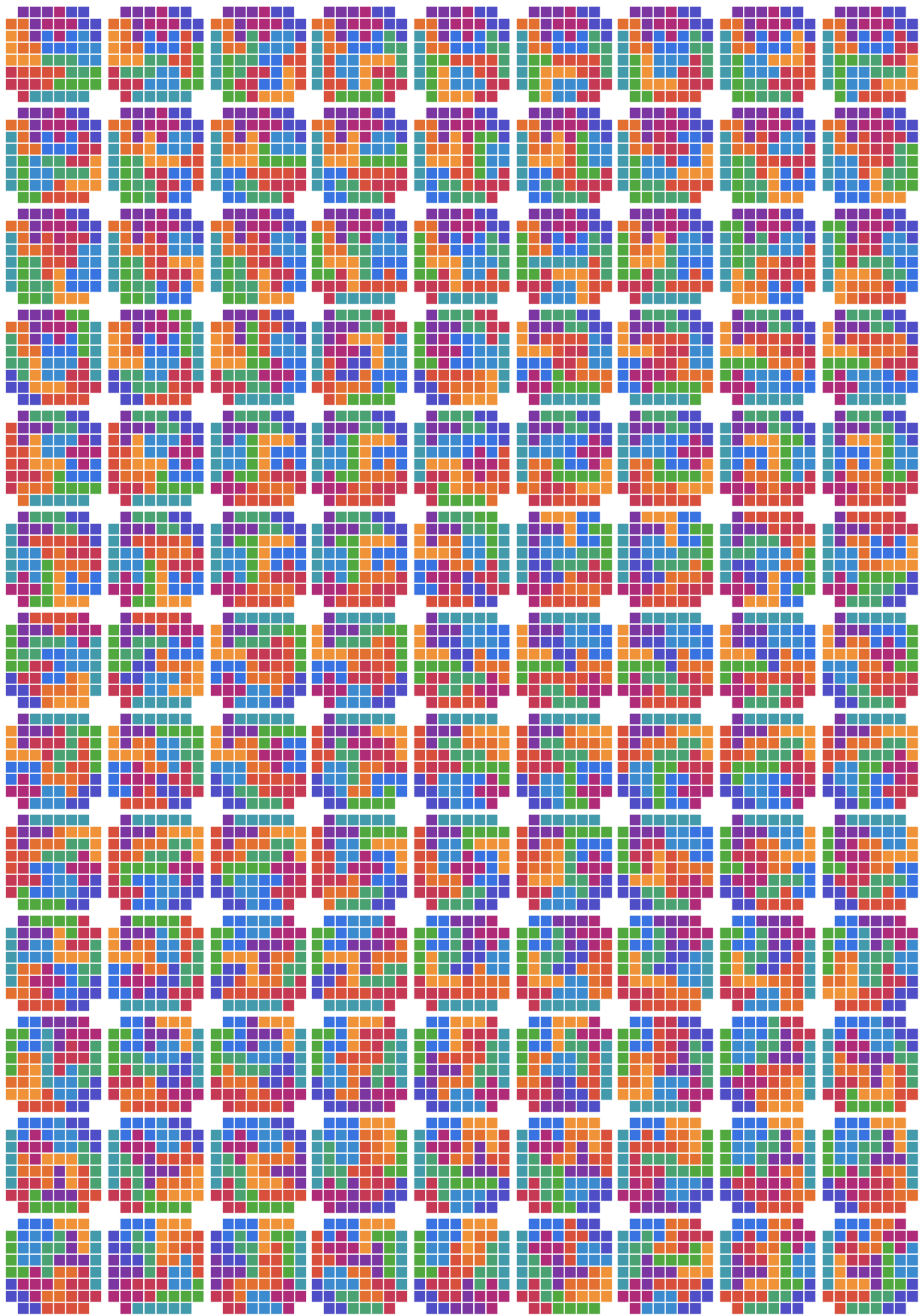


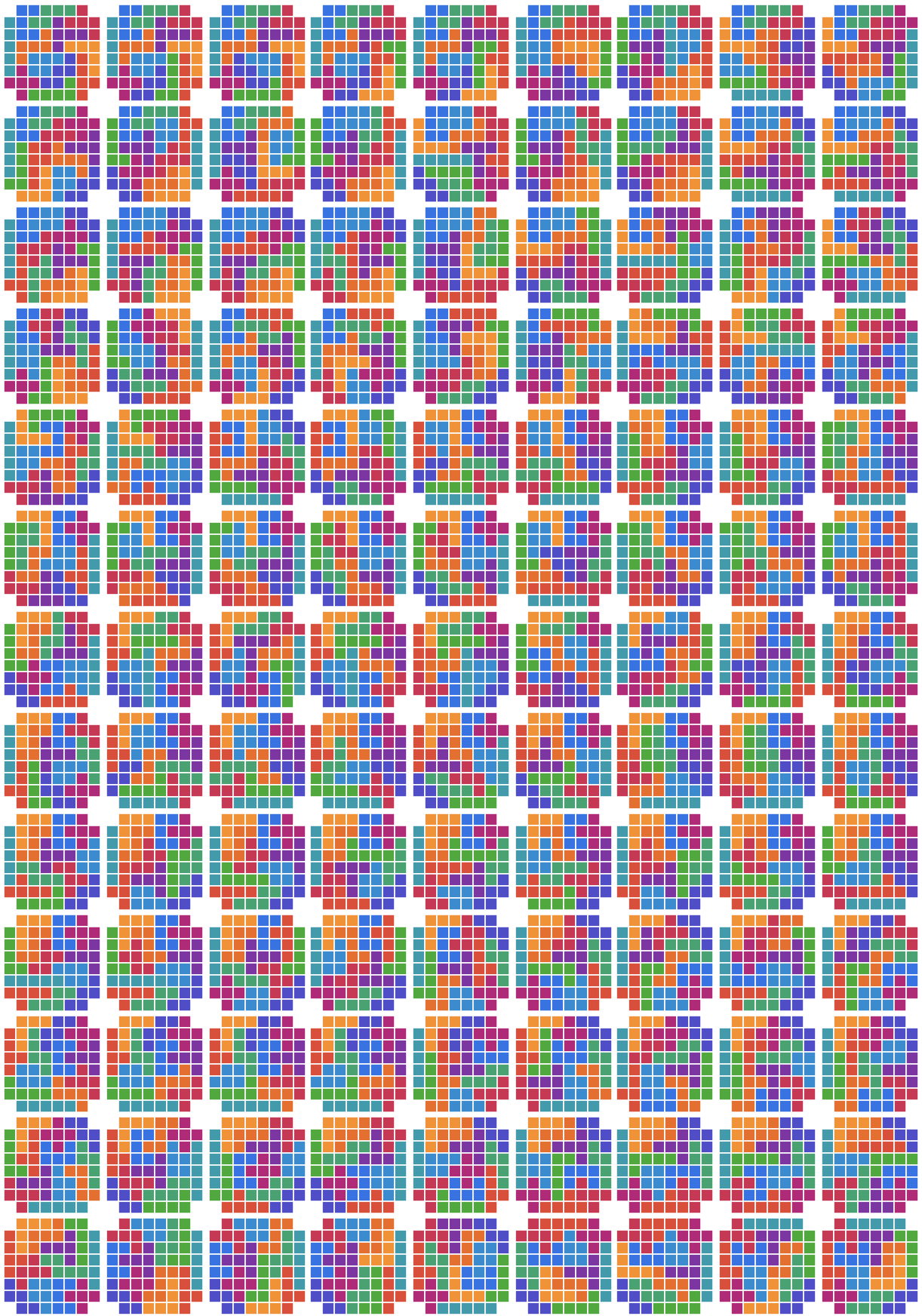


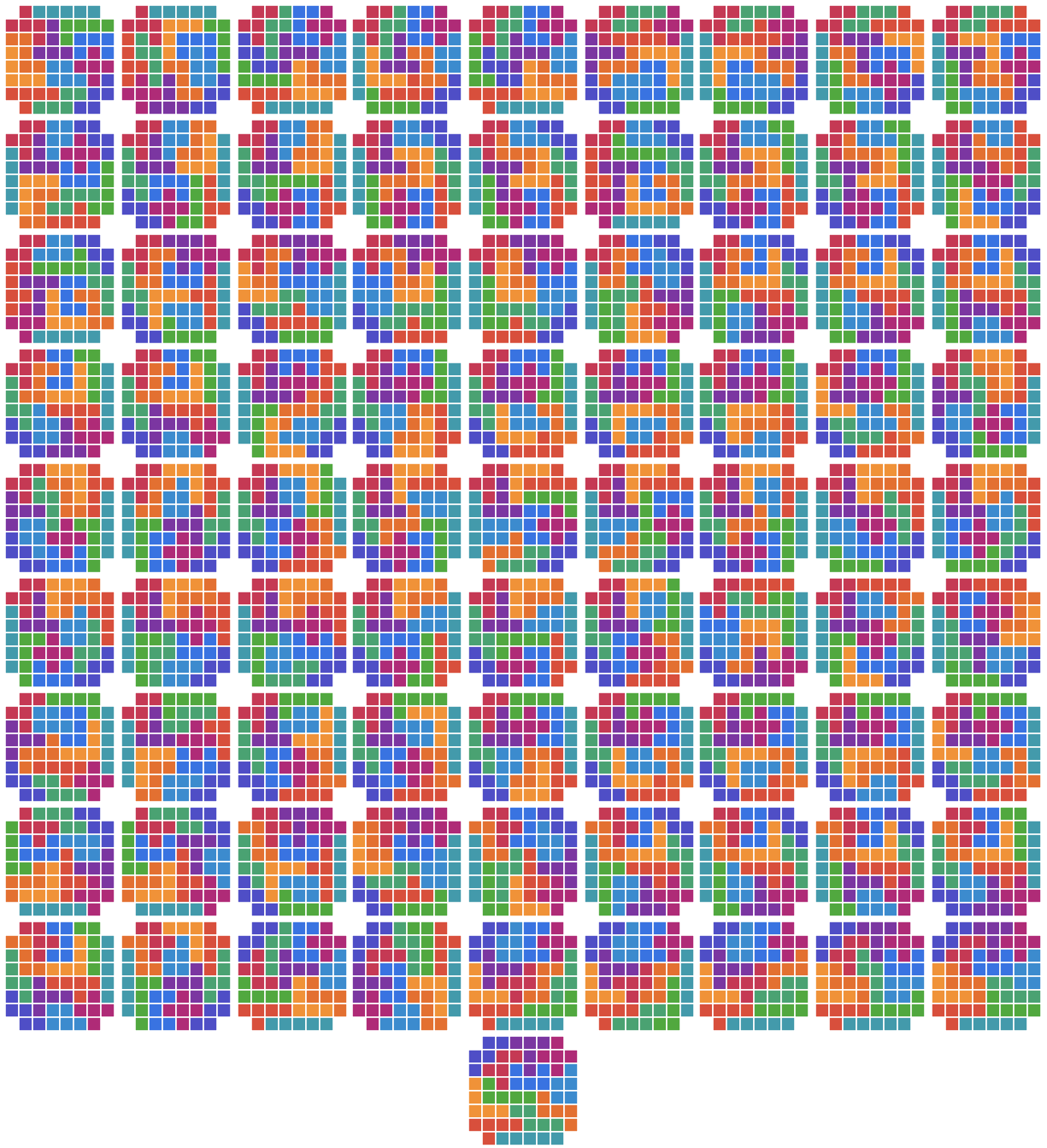


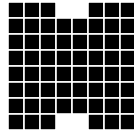




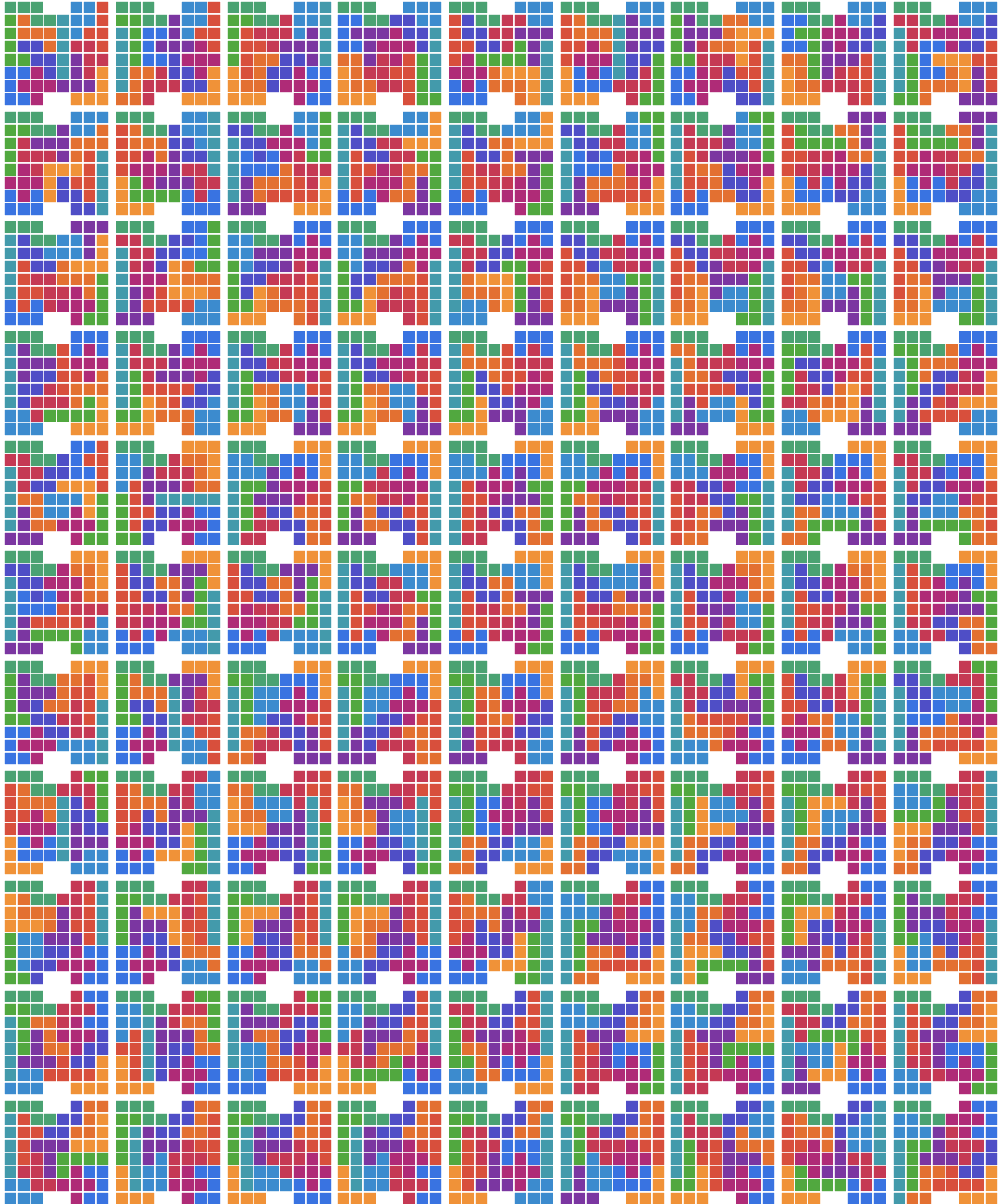


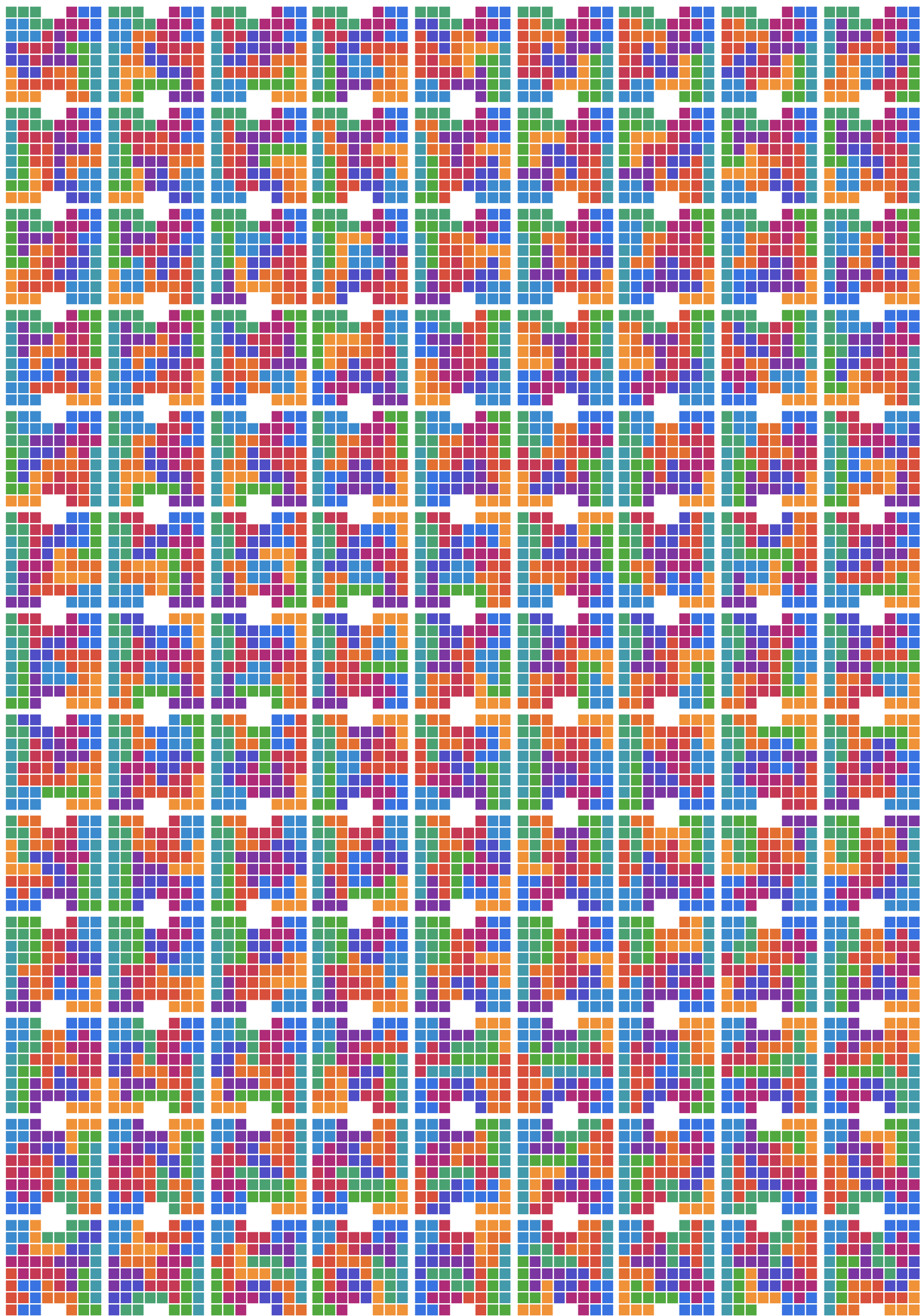


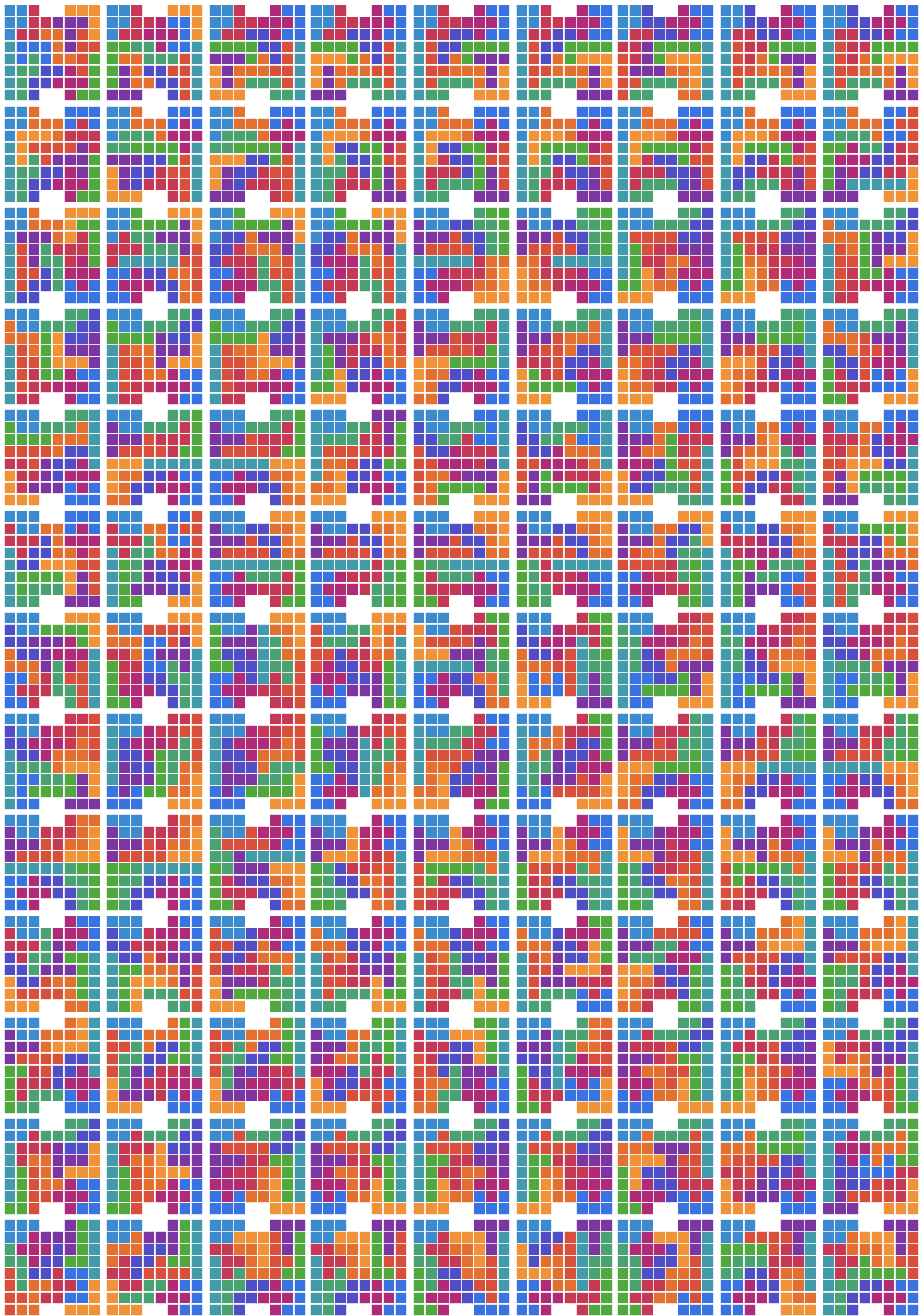


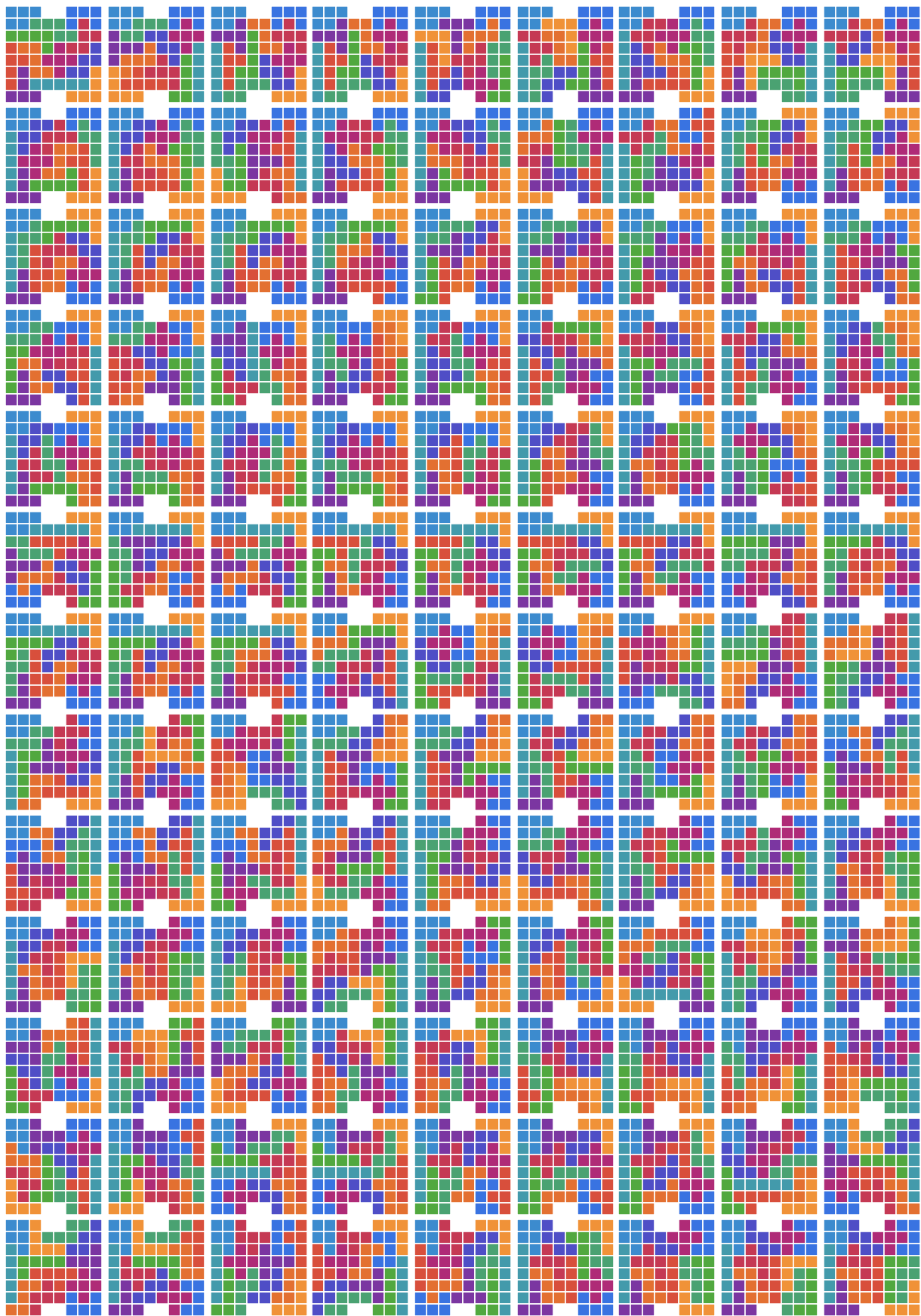


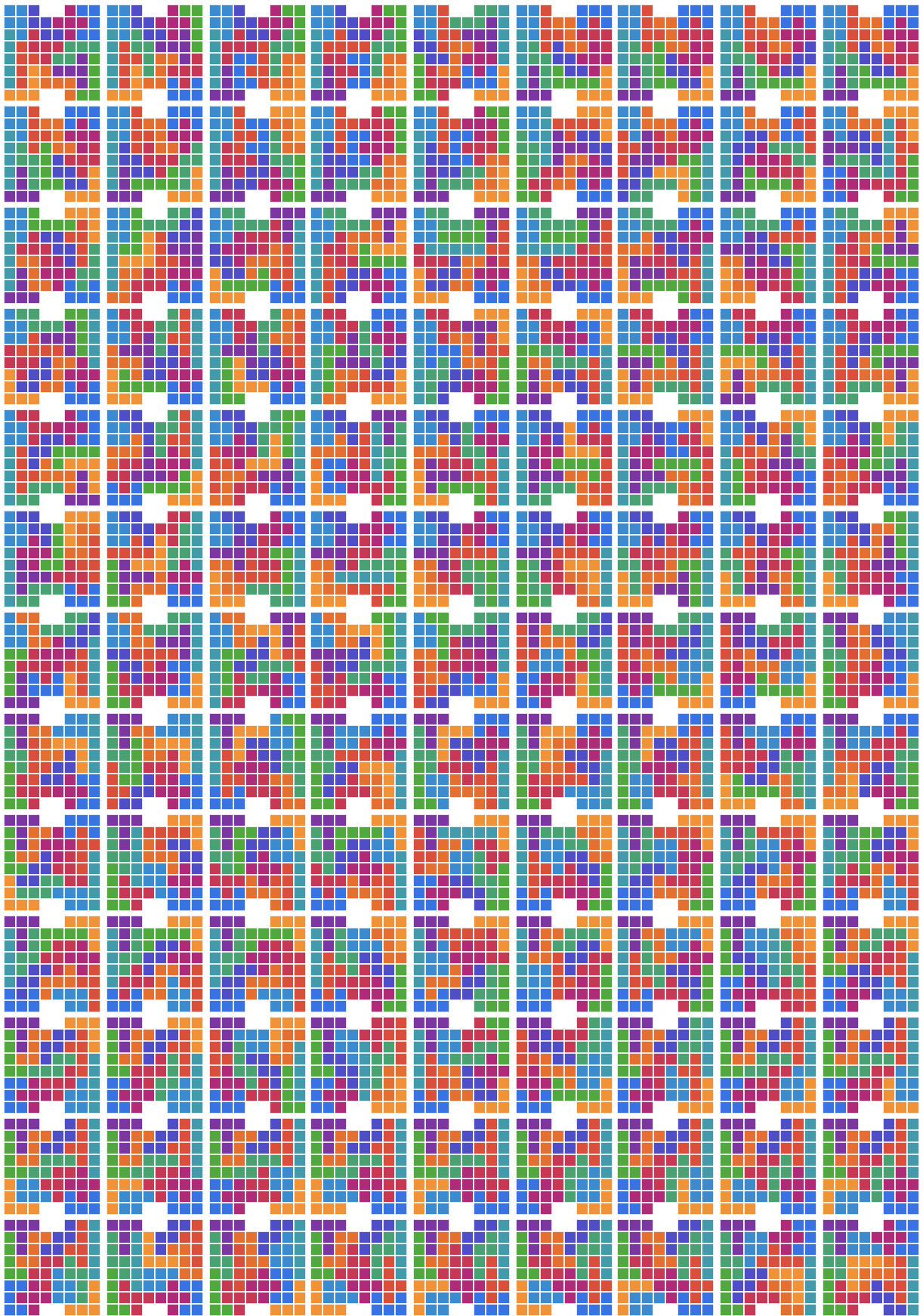
notch1
694 Solutions

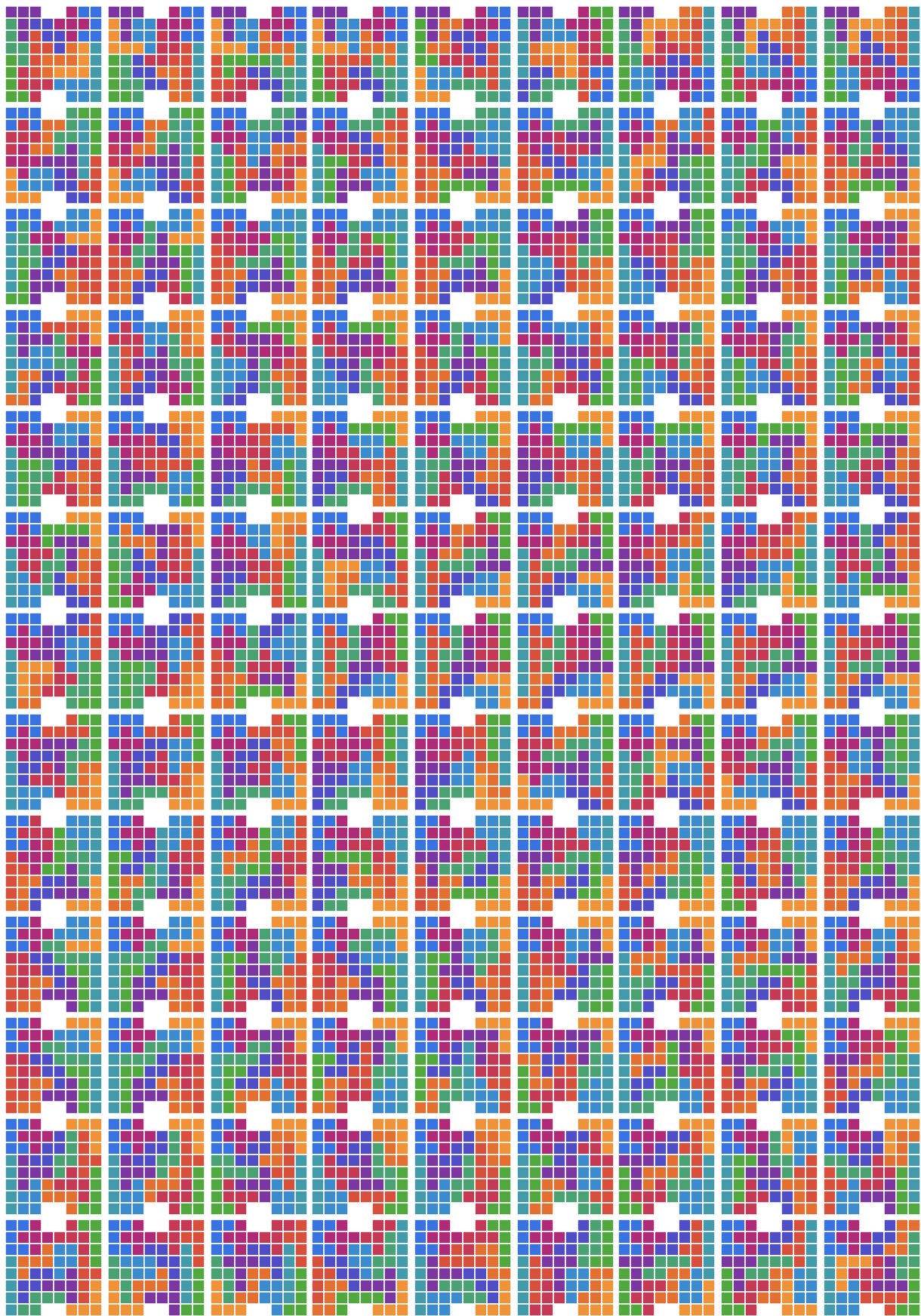


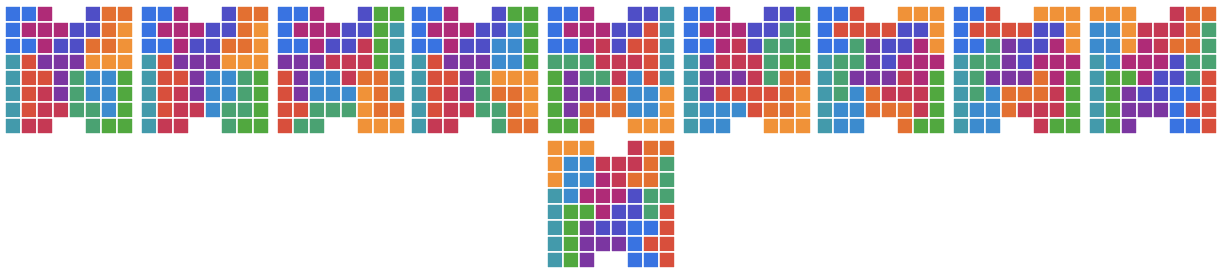


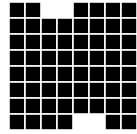




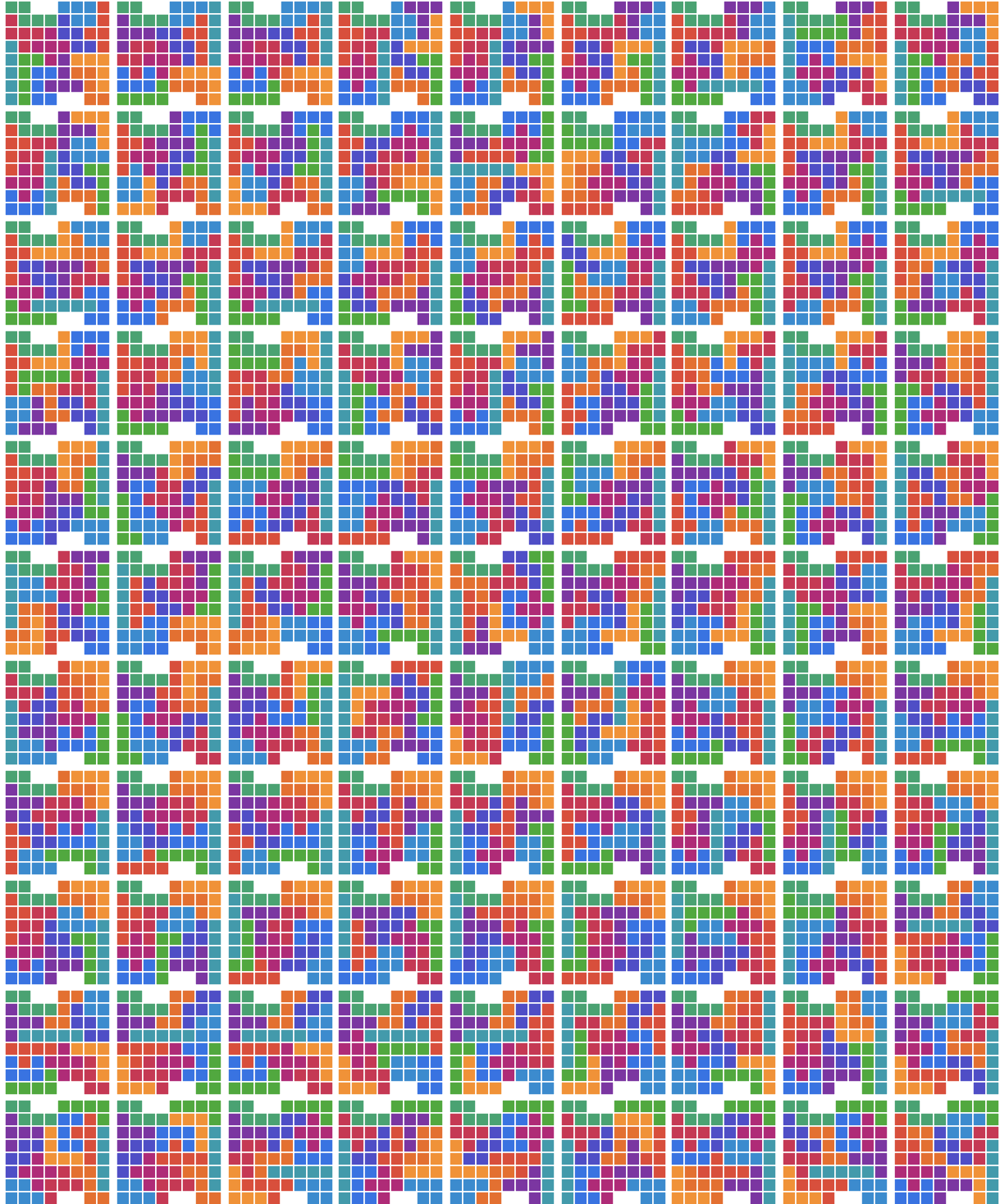


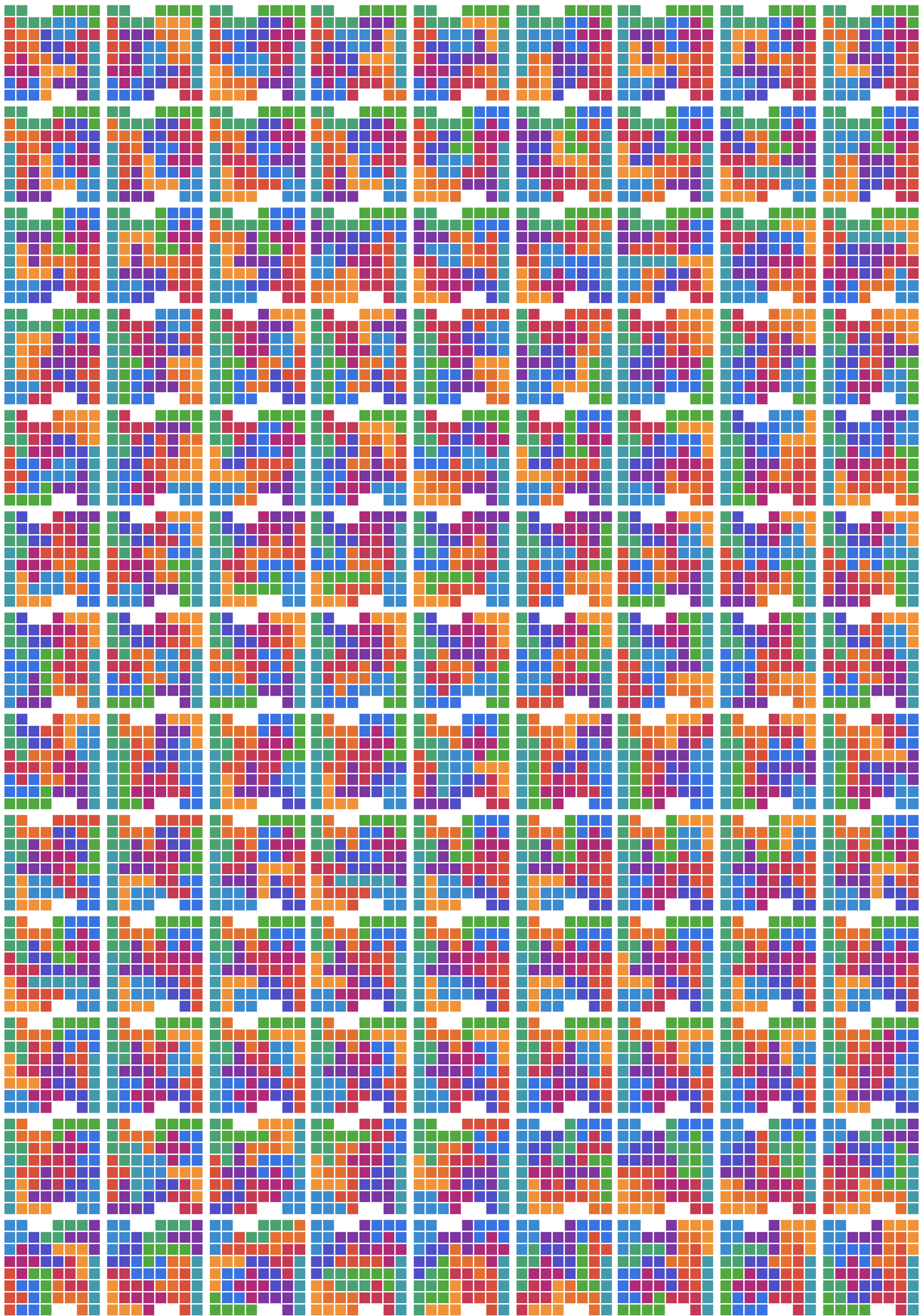


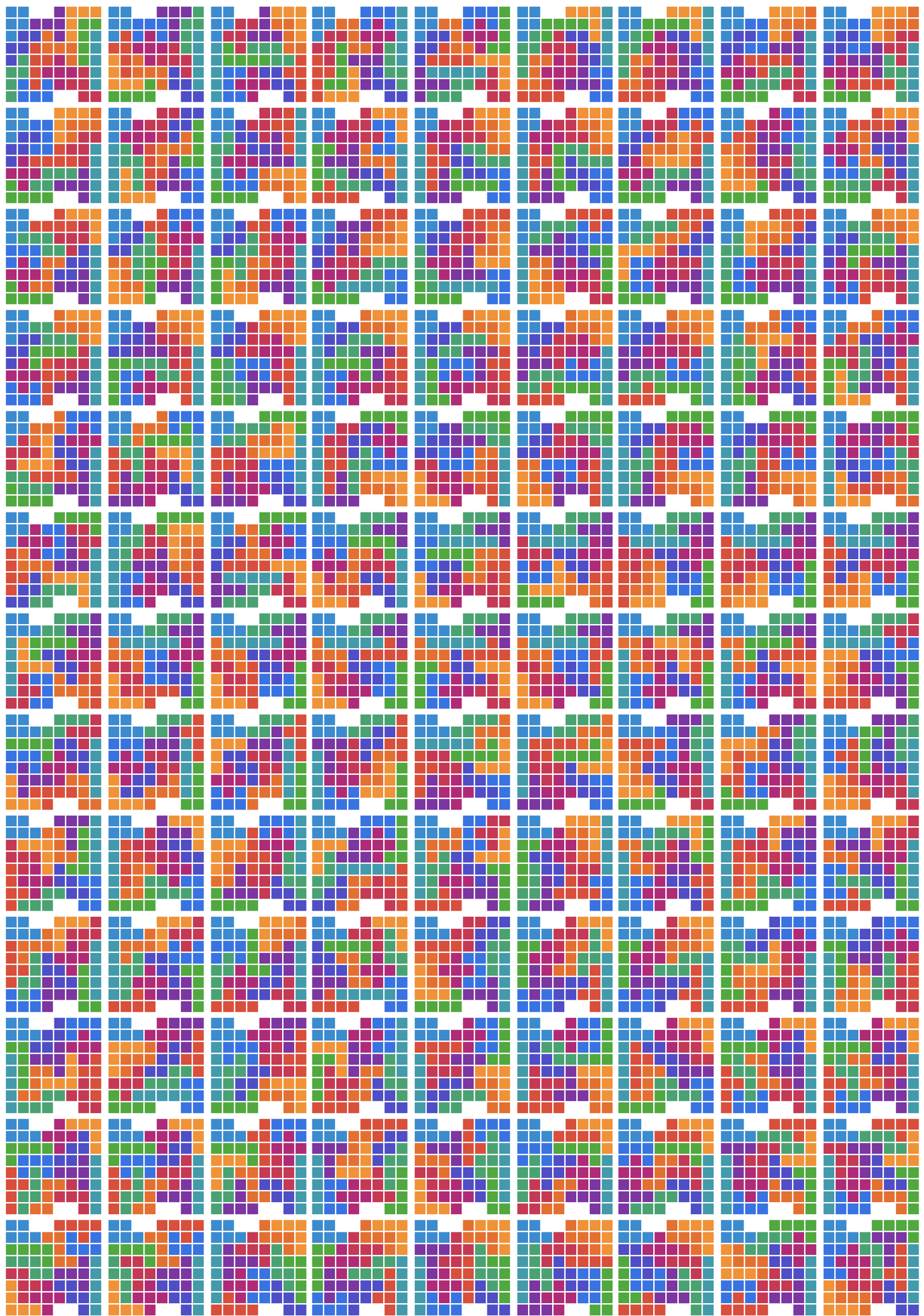


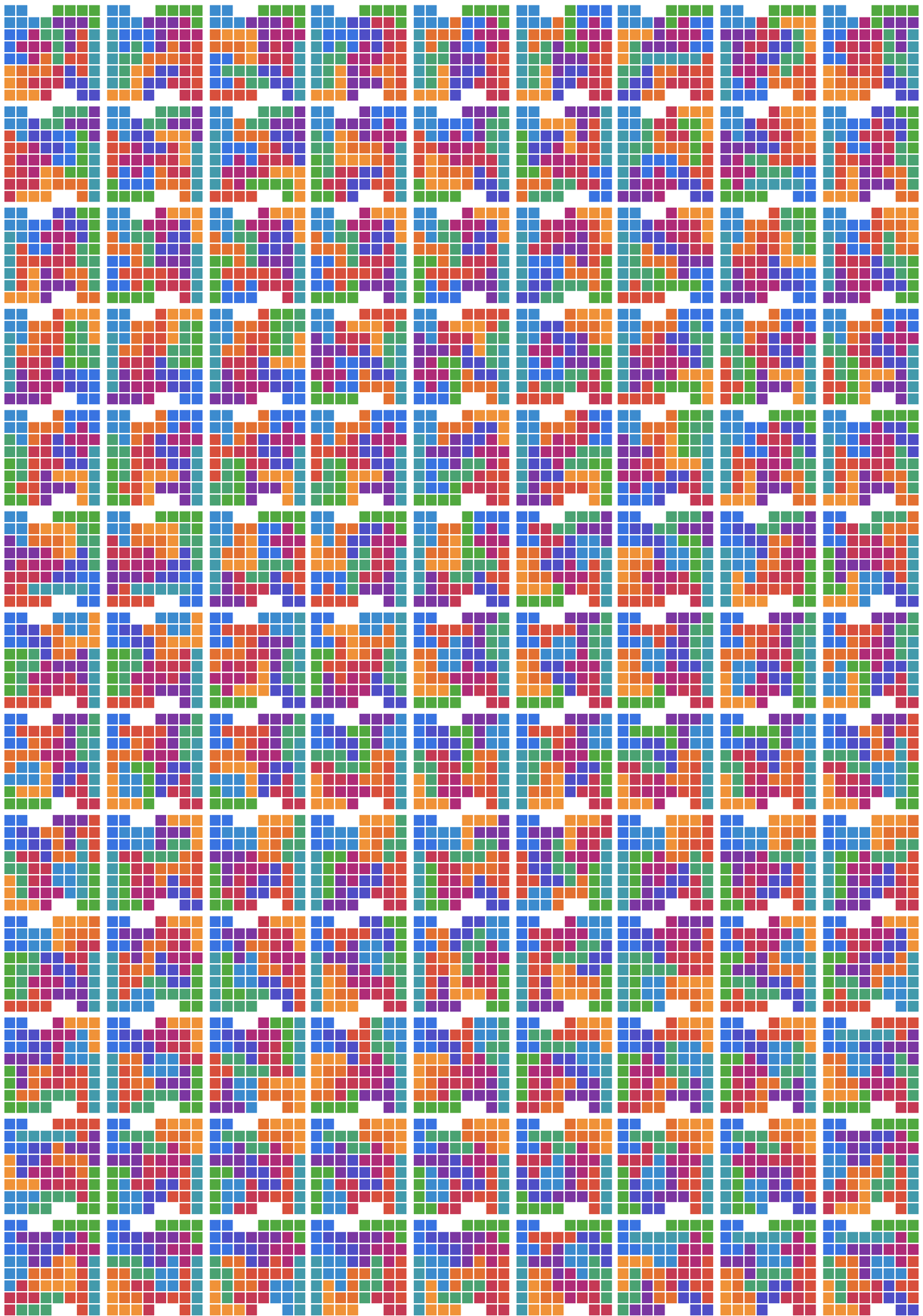


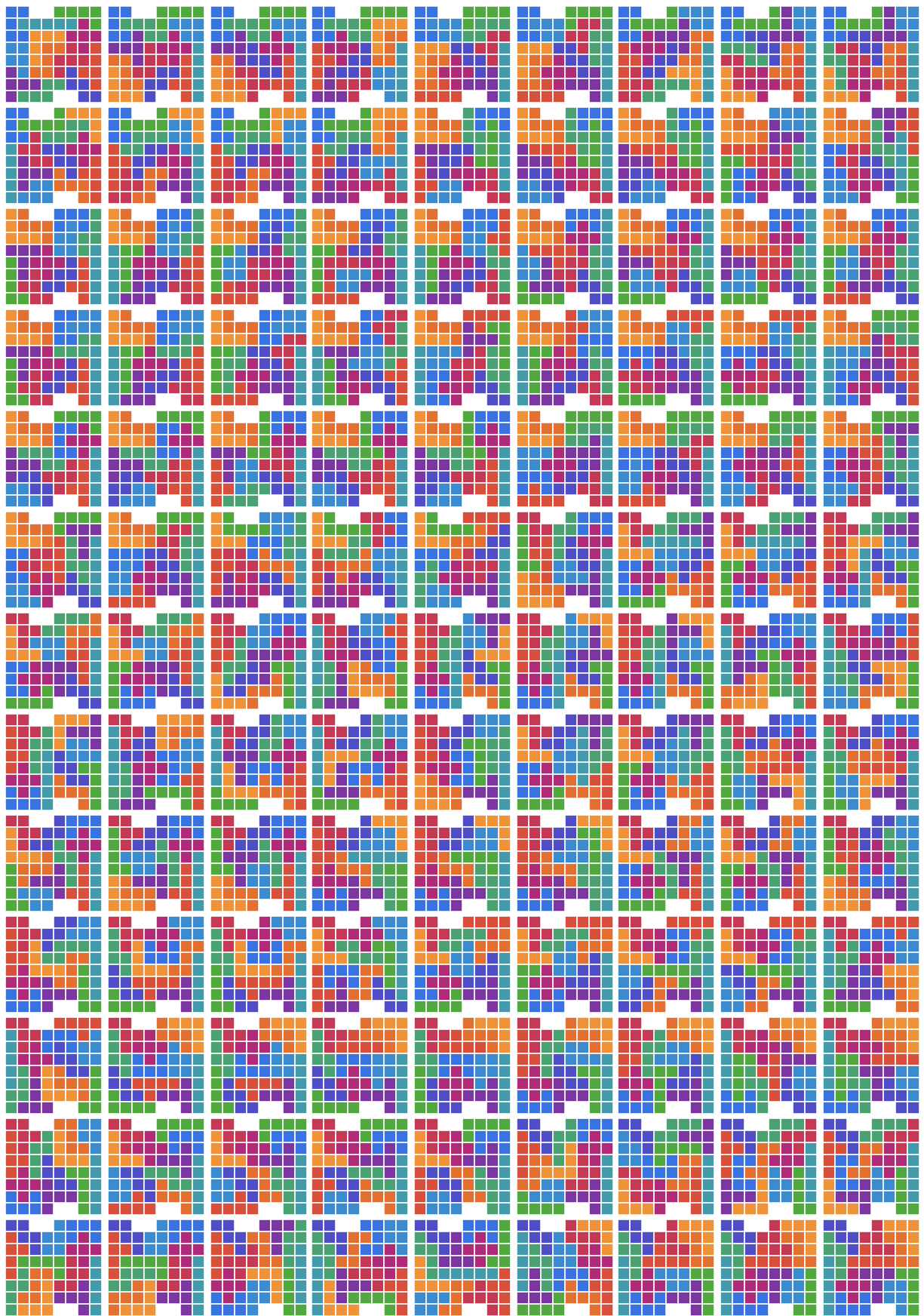
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711 Solutions

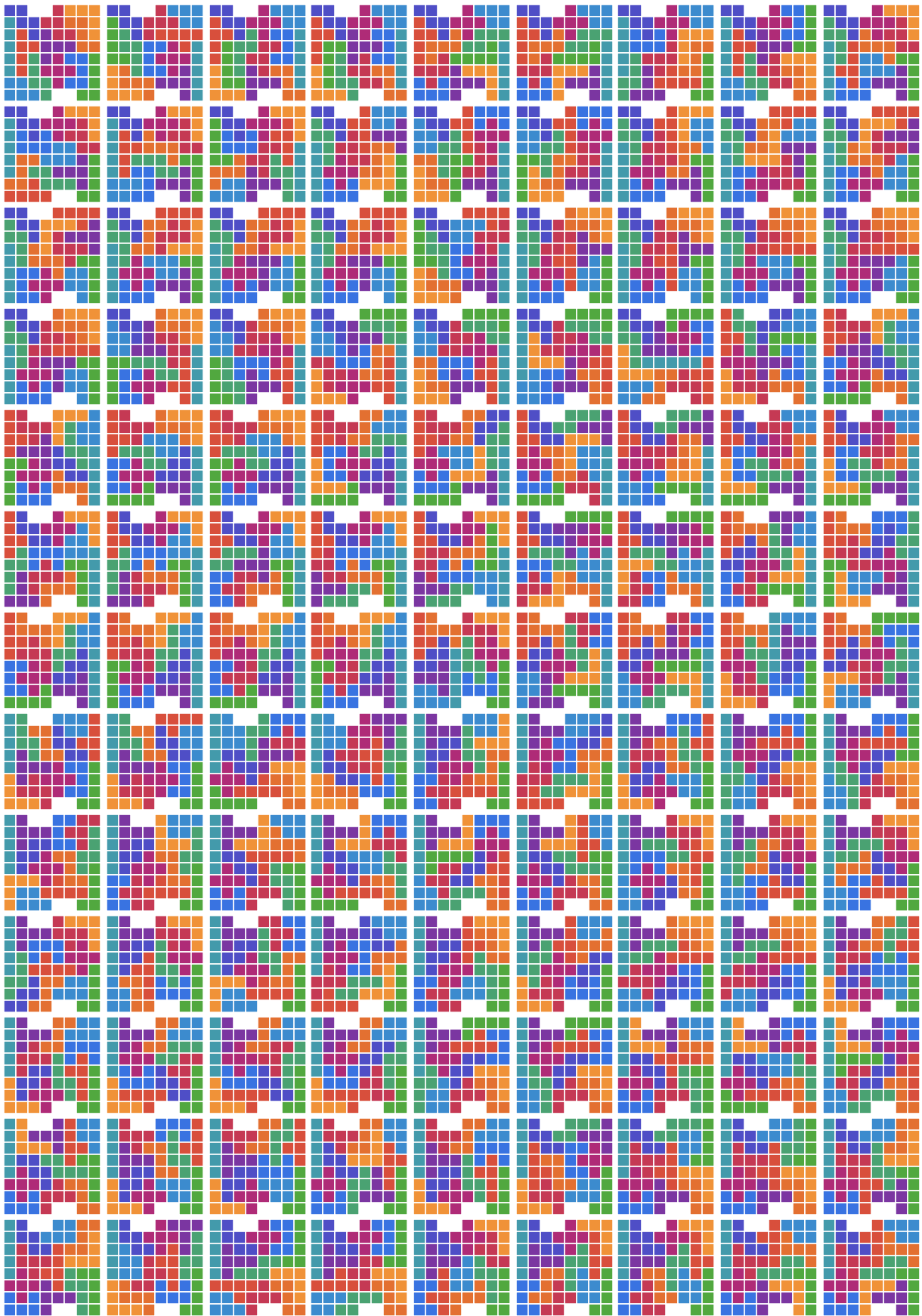


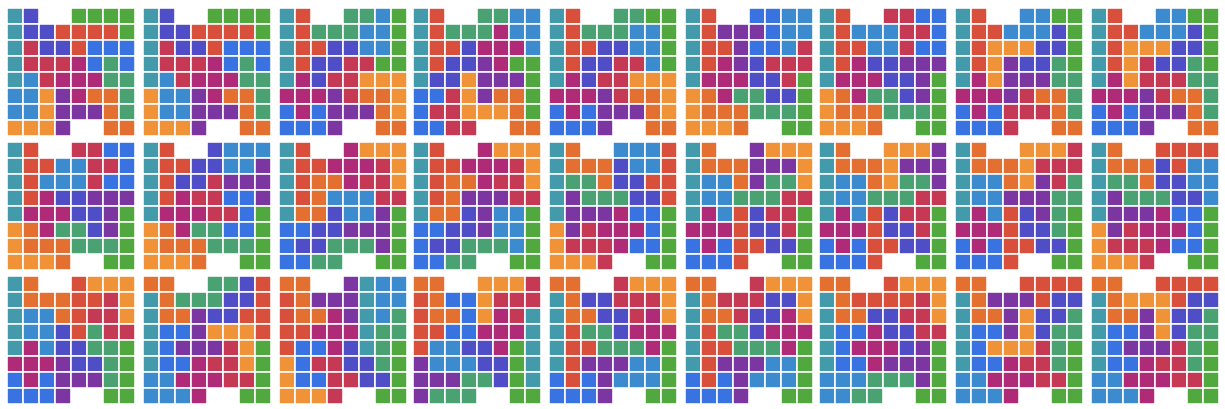


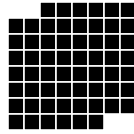






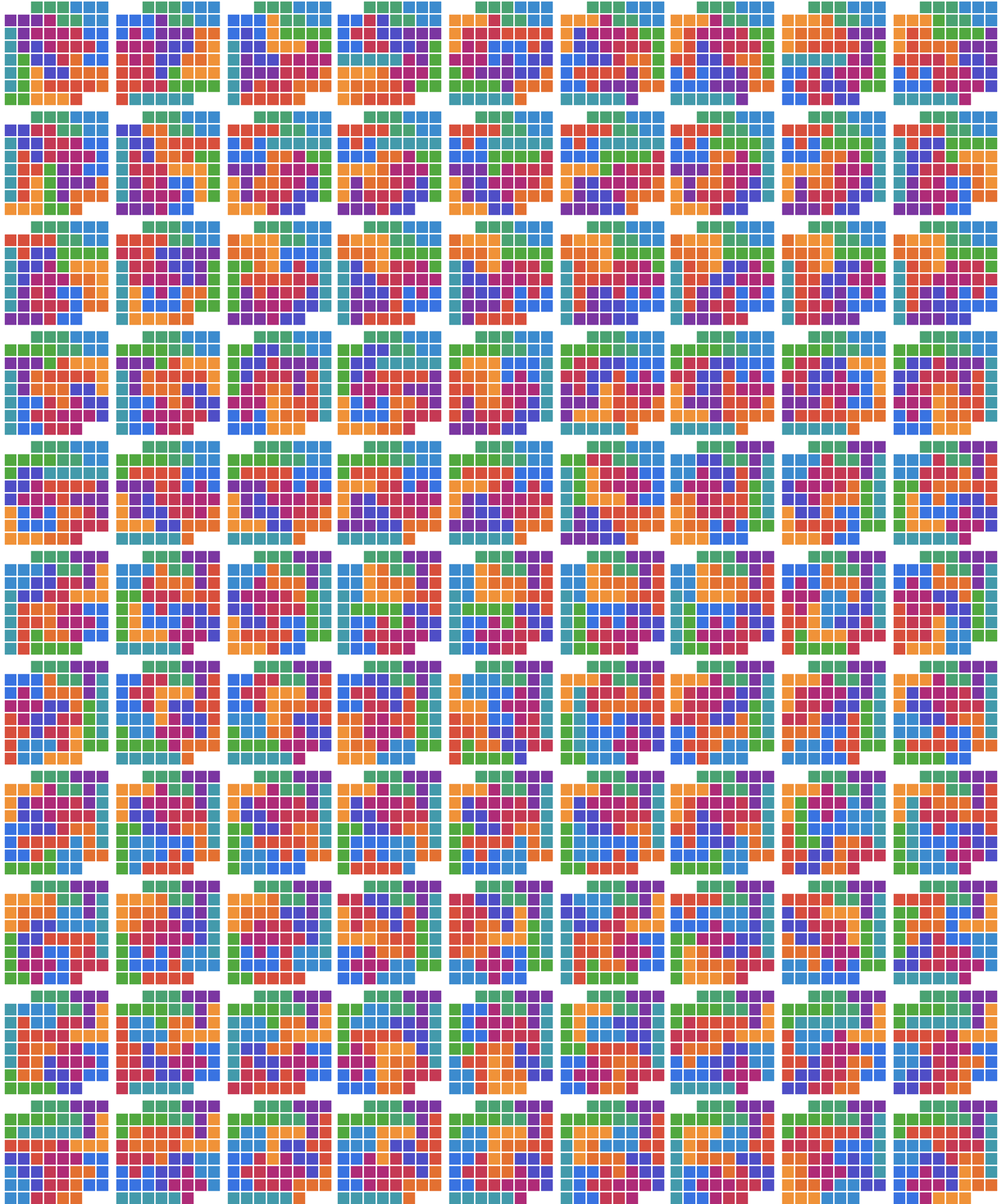


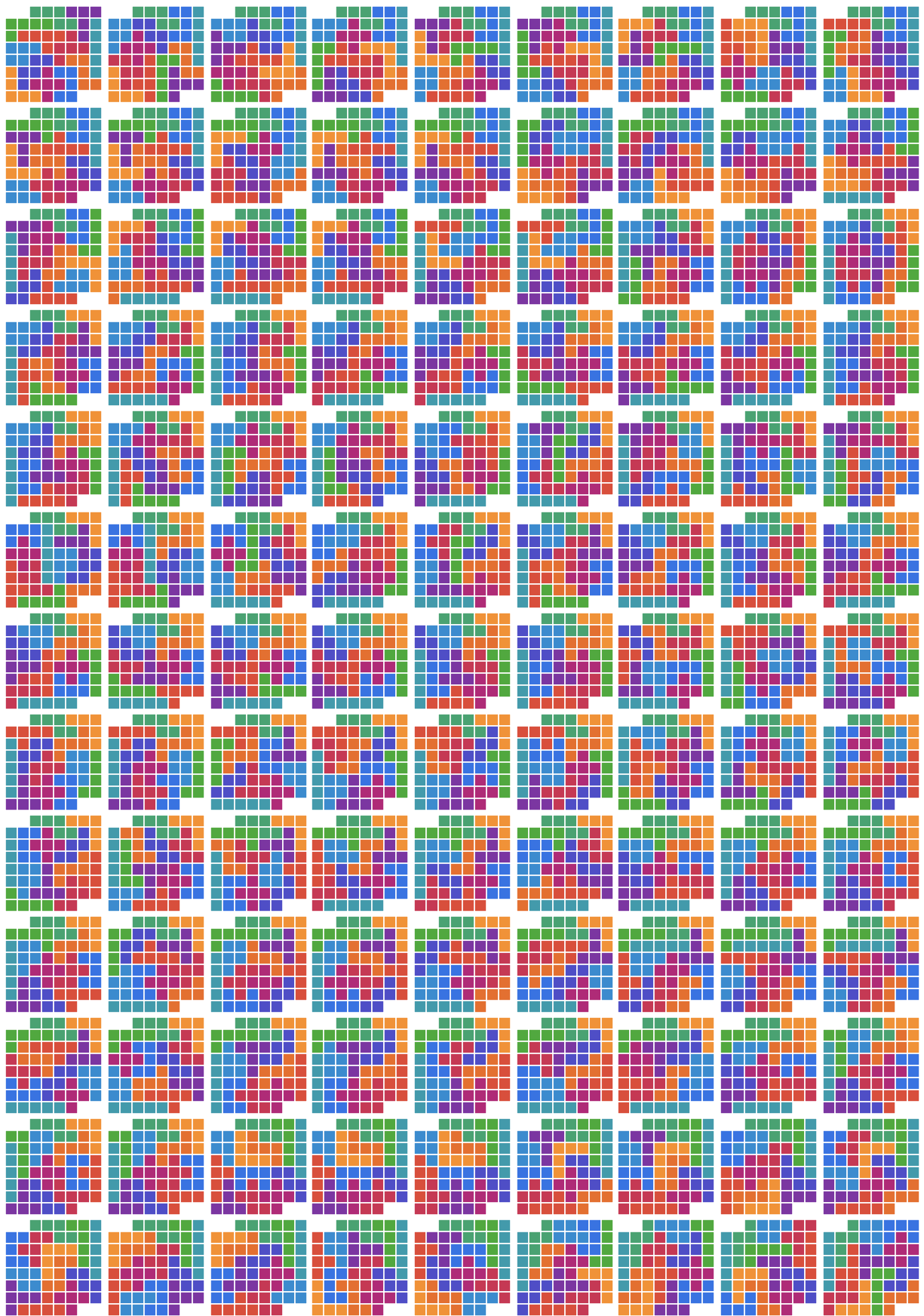


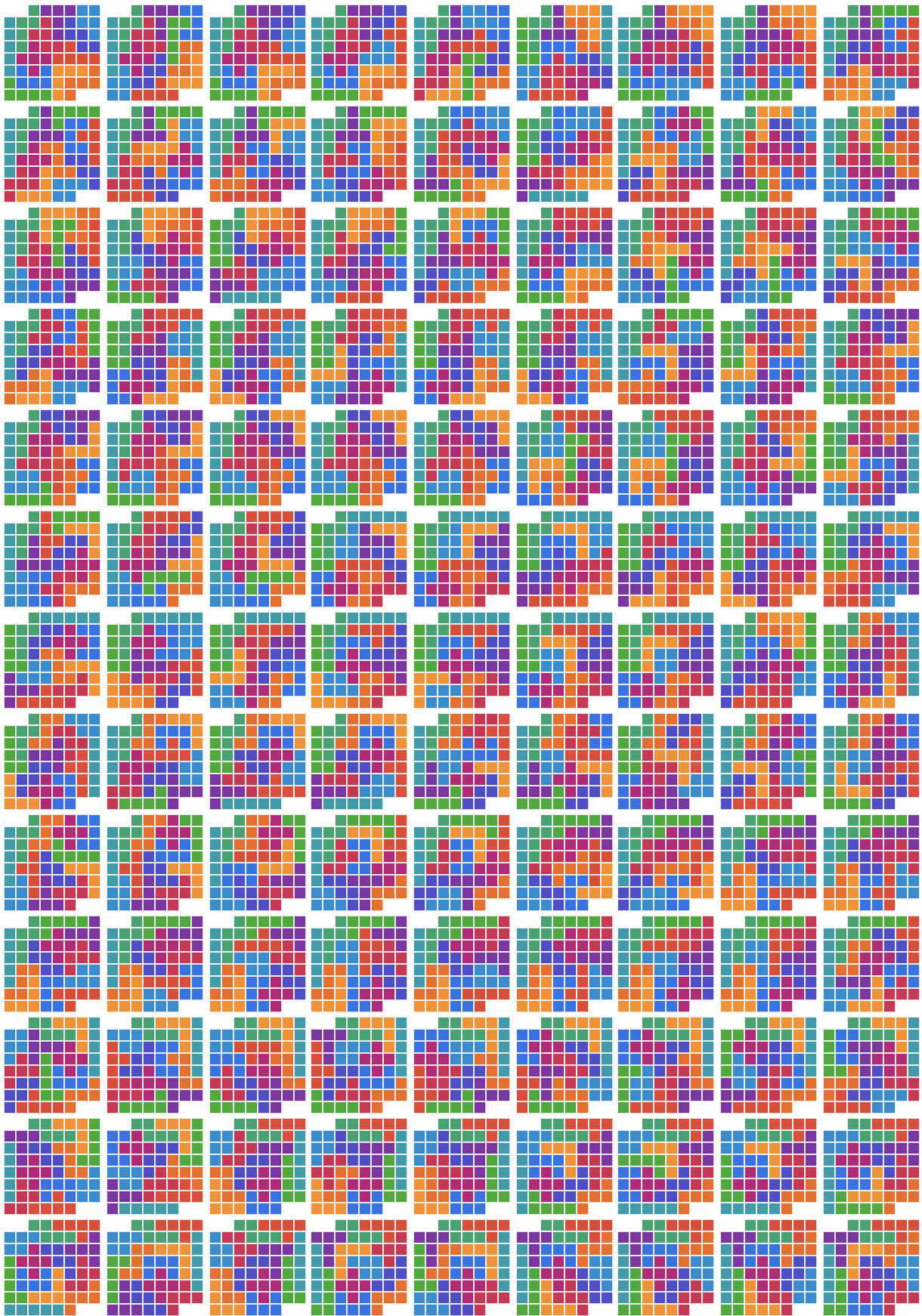


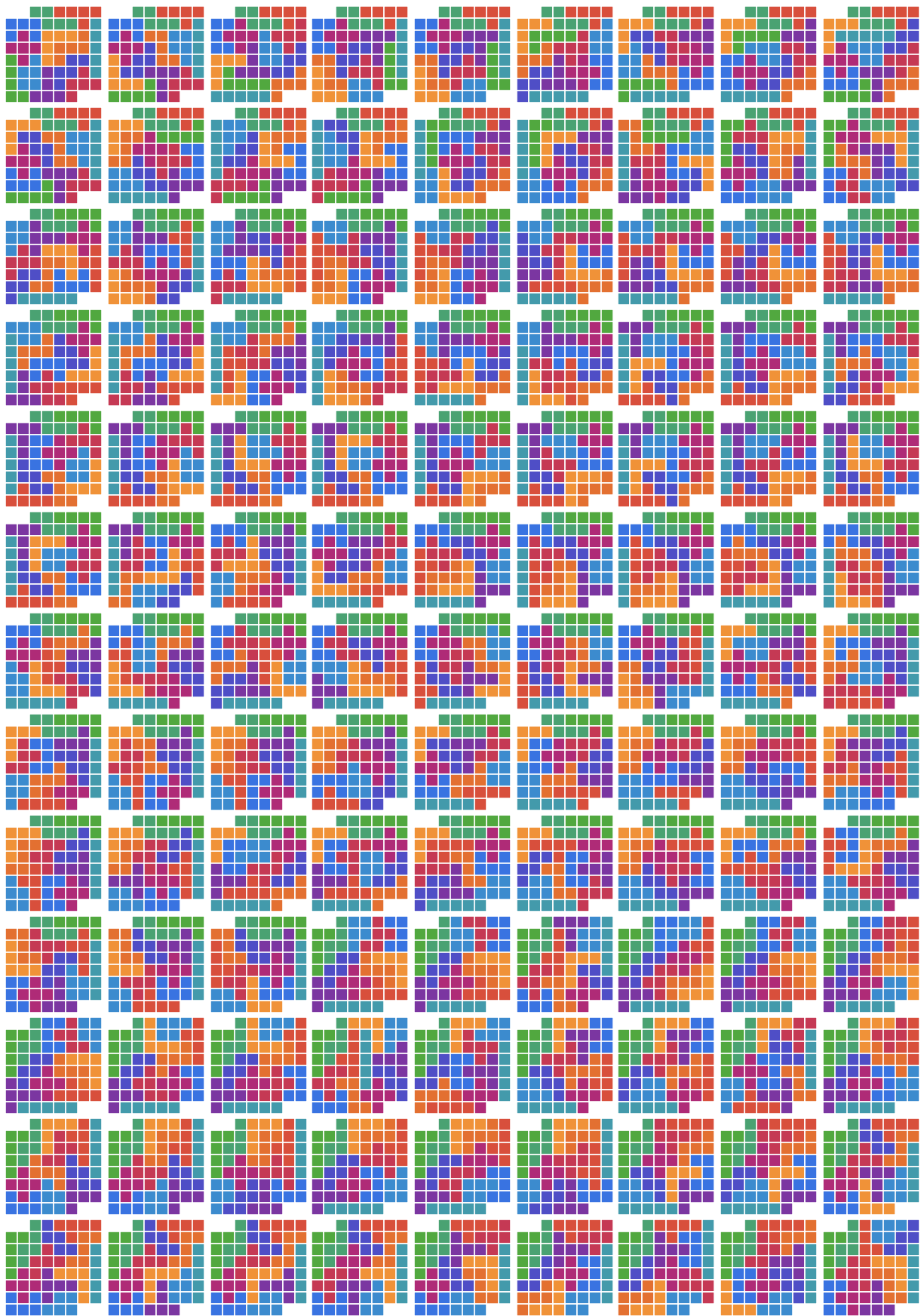
notch3

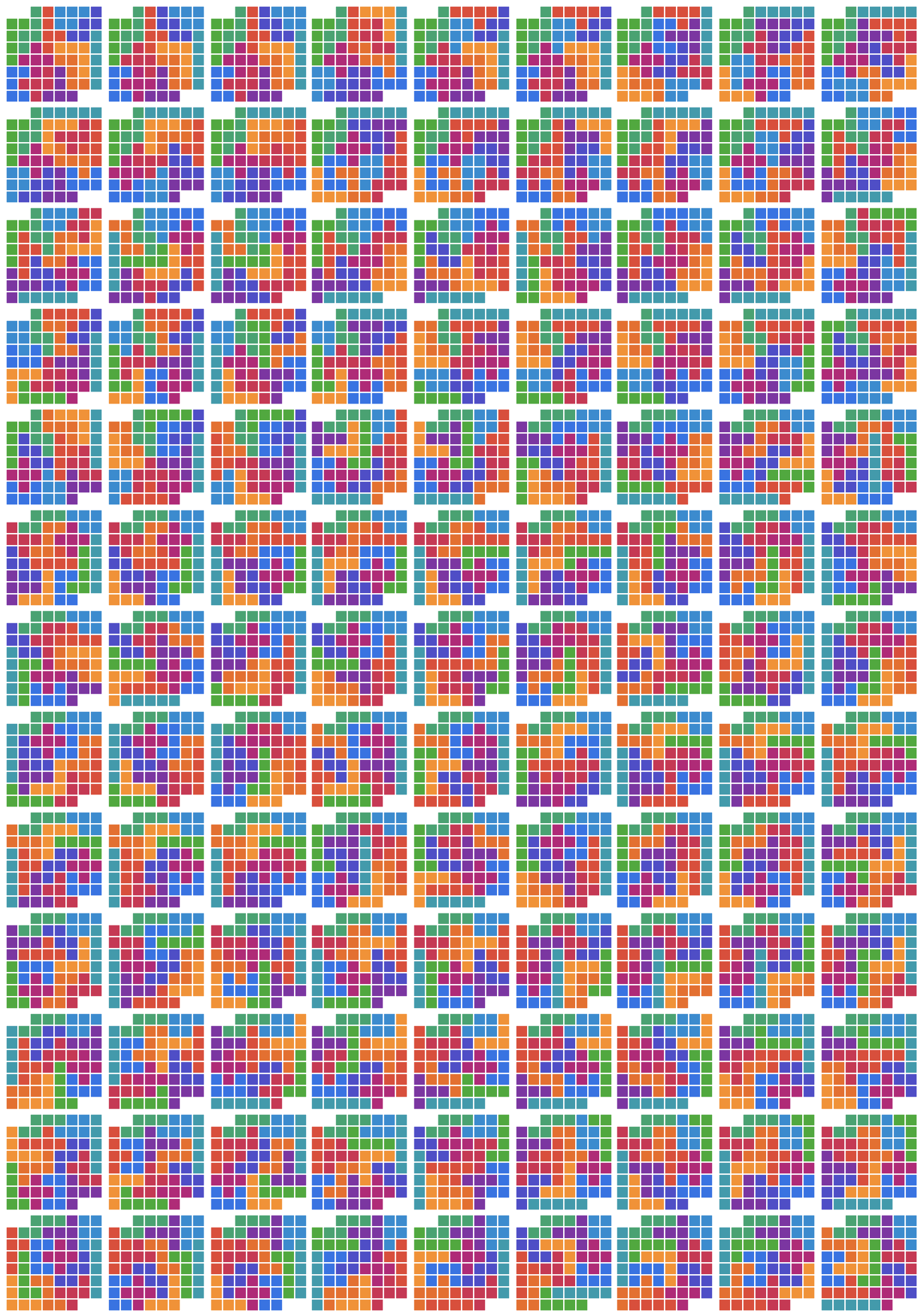
6,309 Solutions

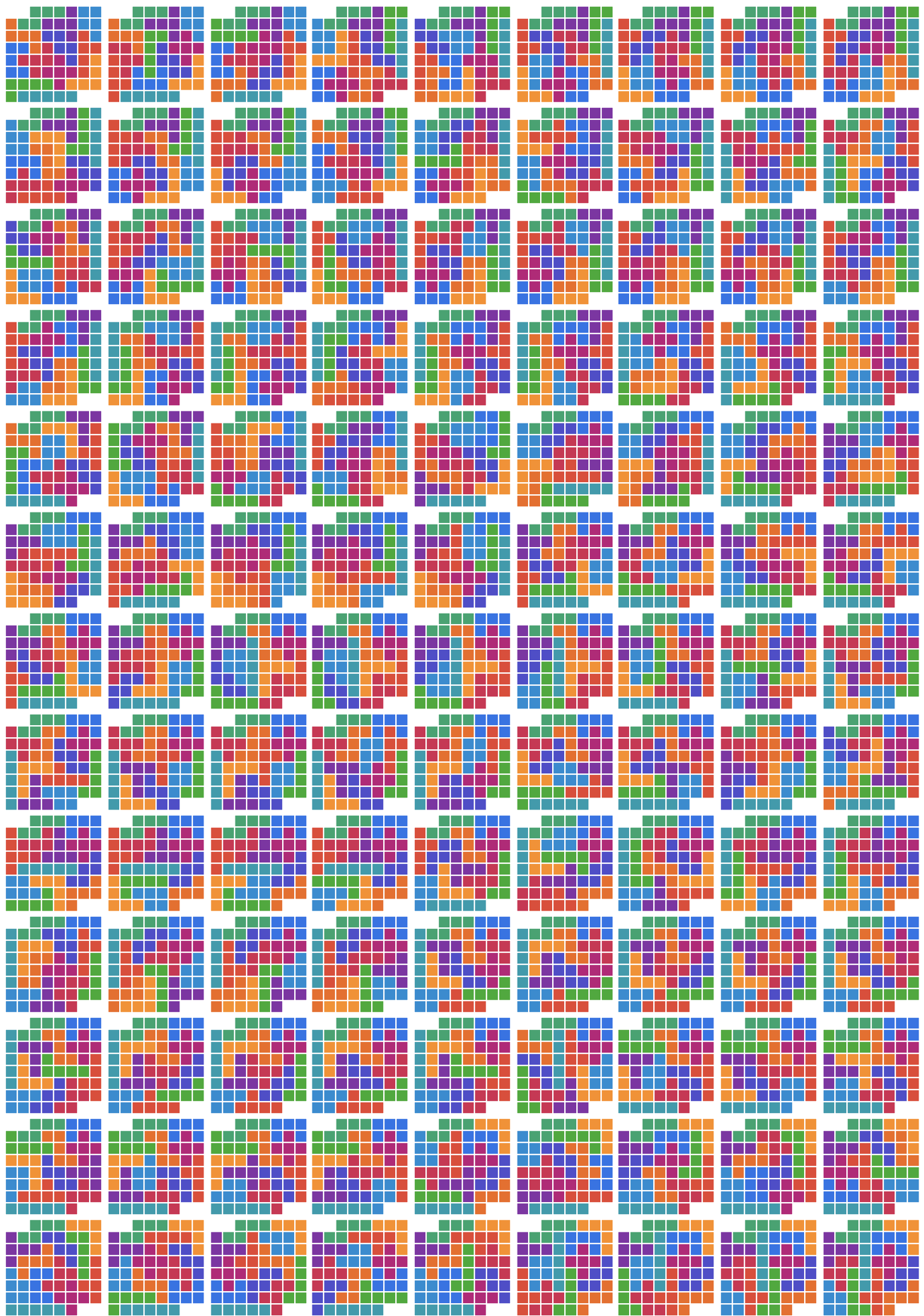


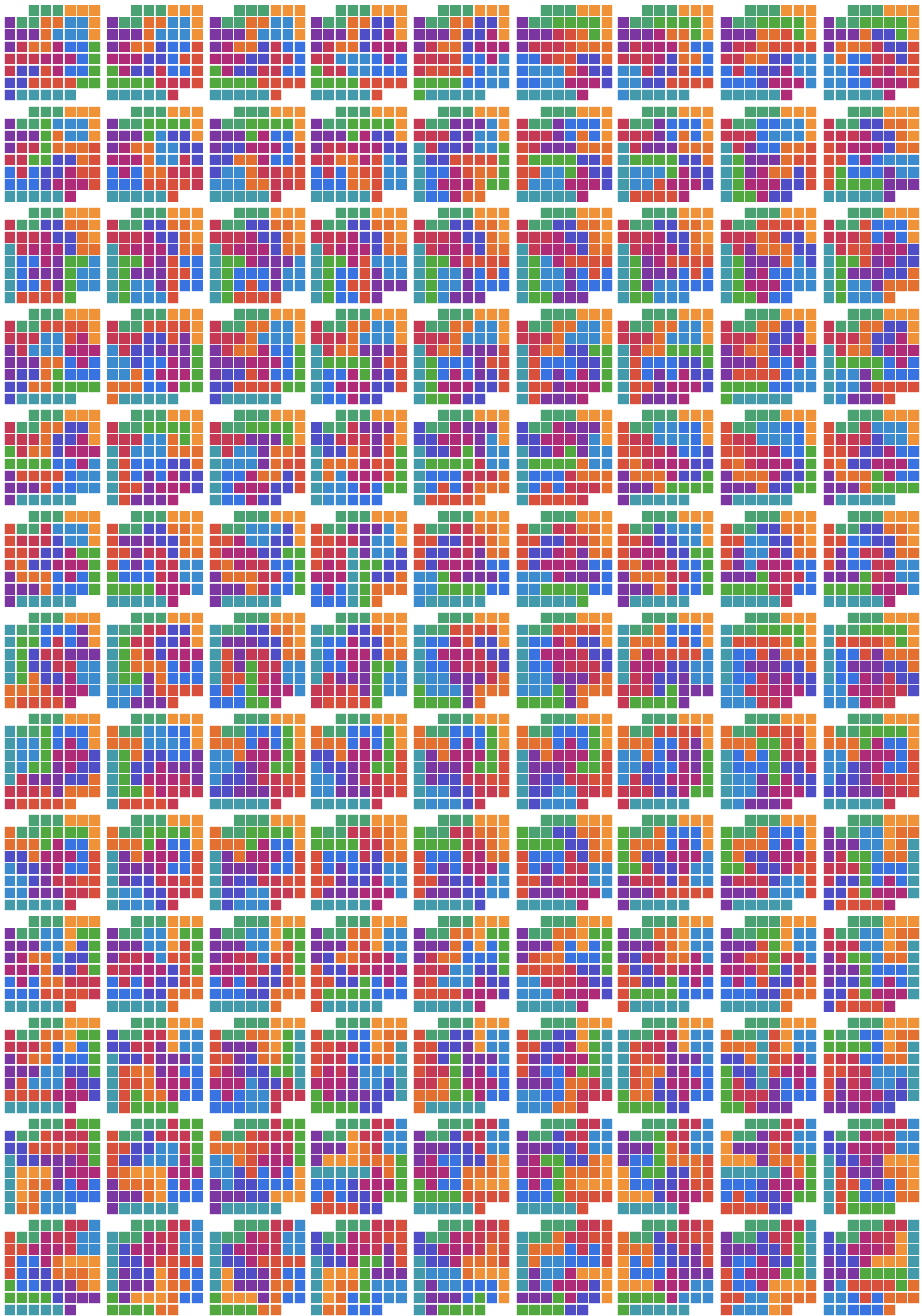


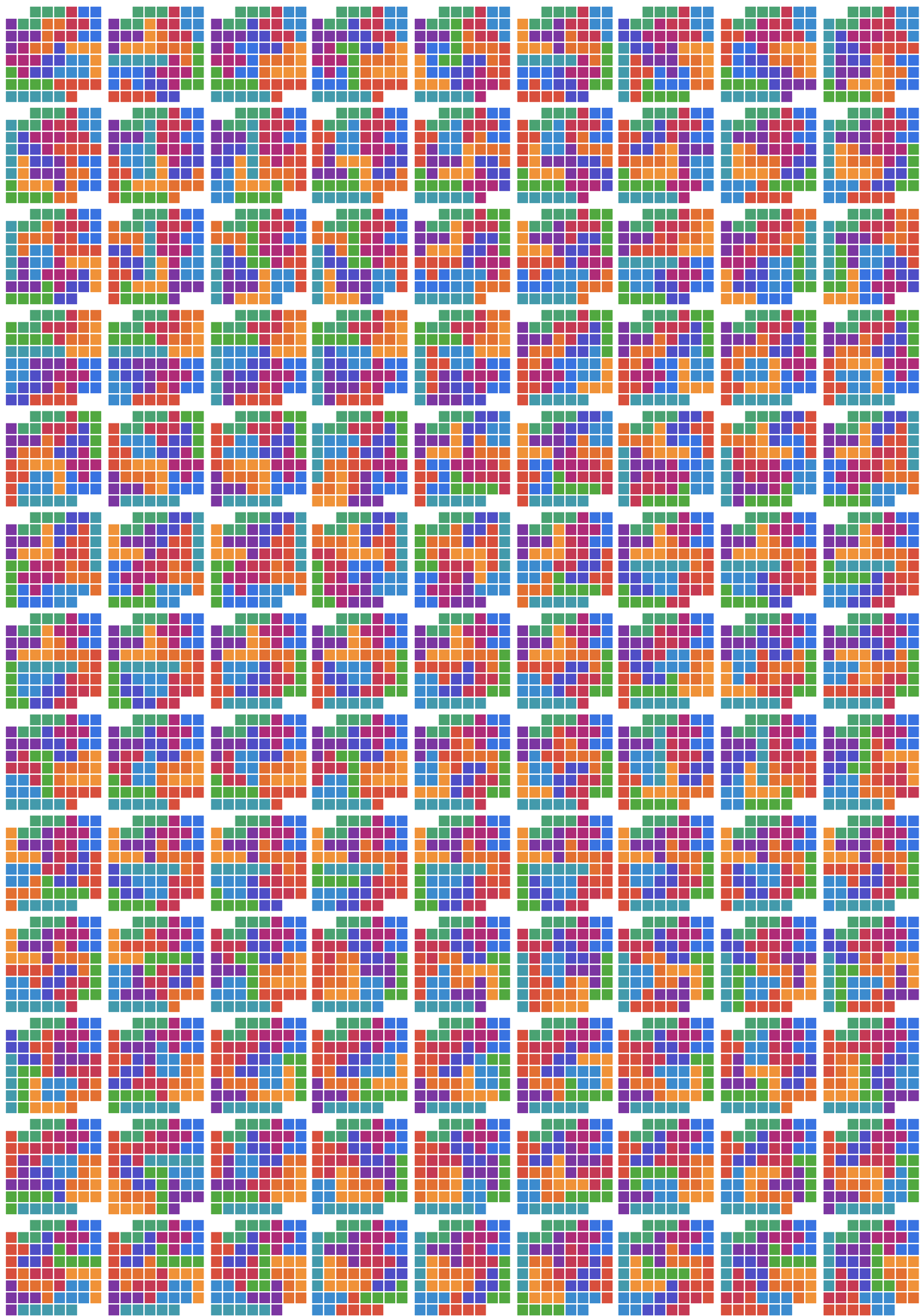


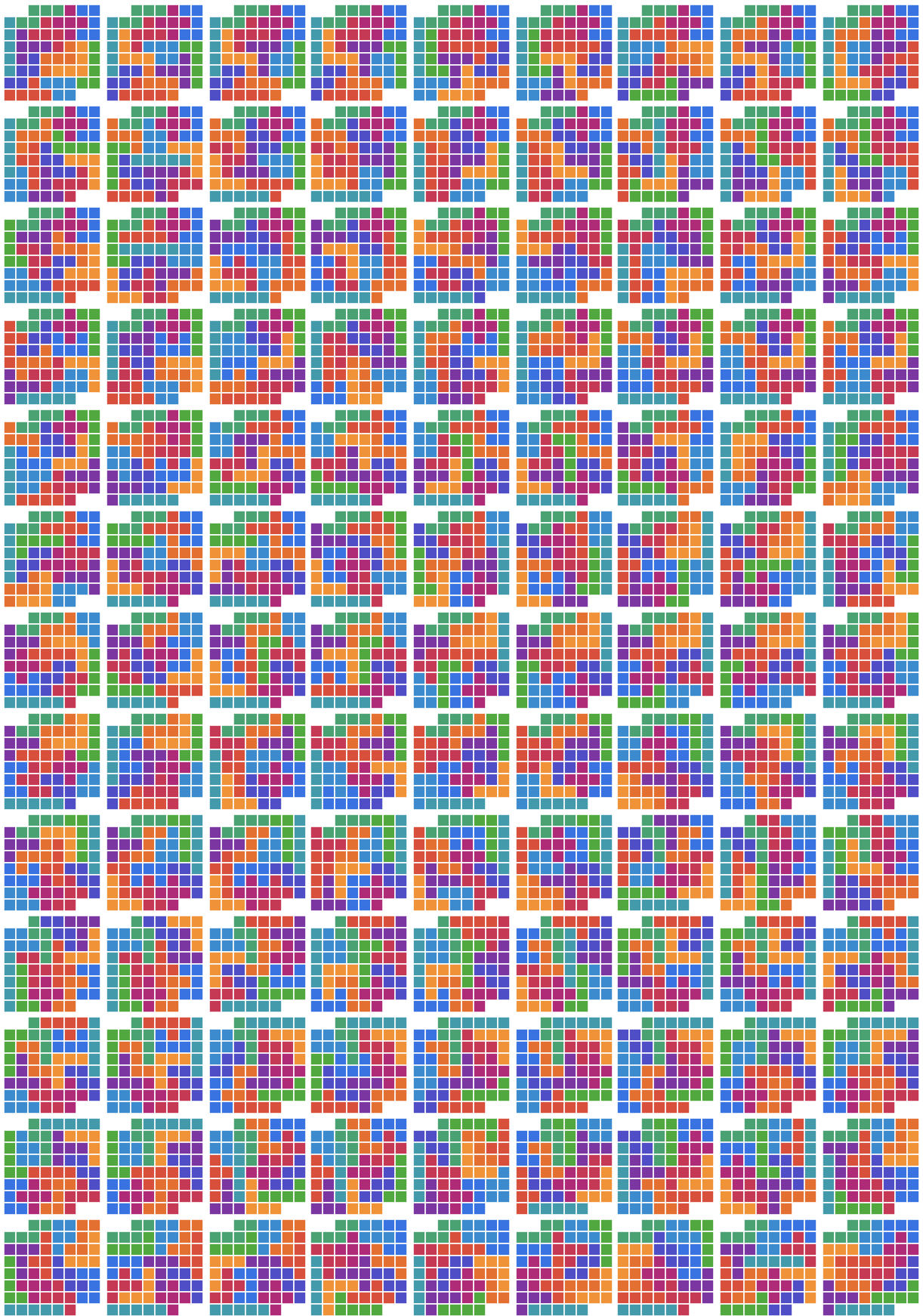


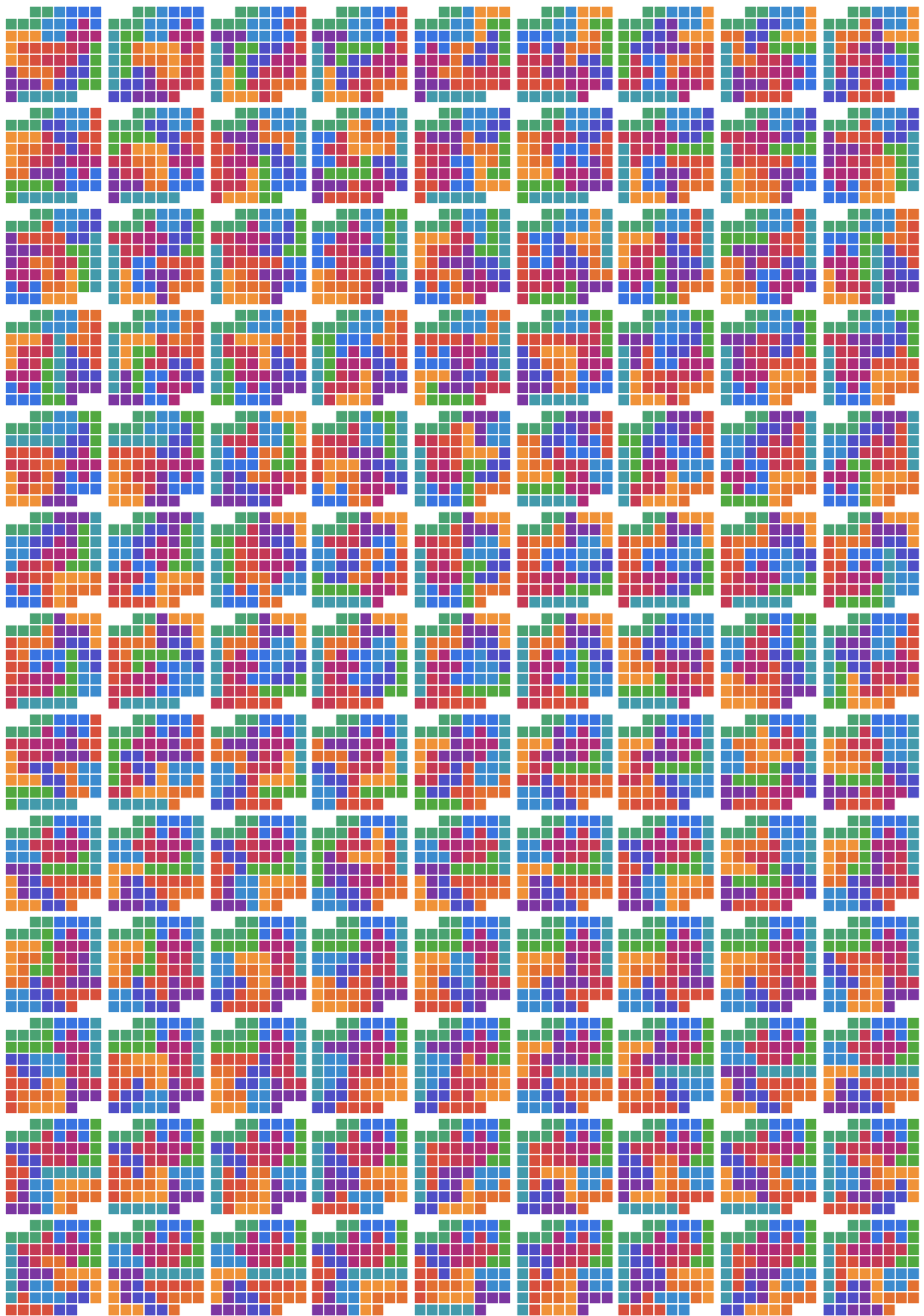


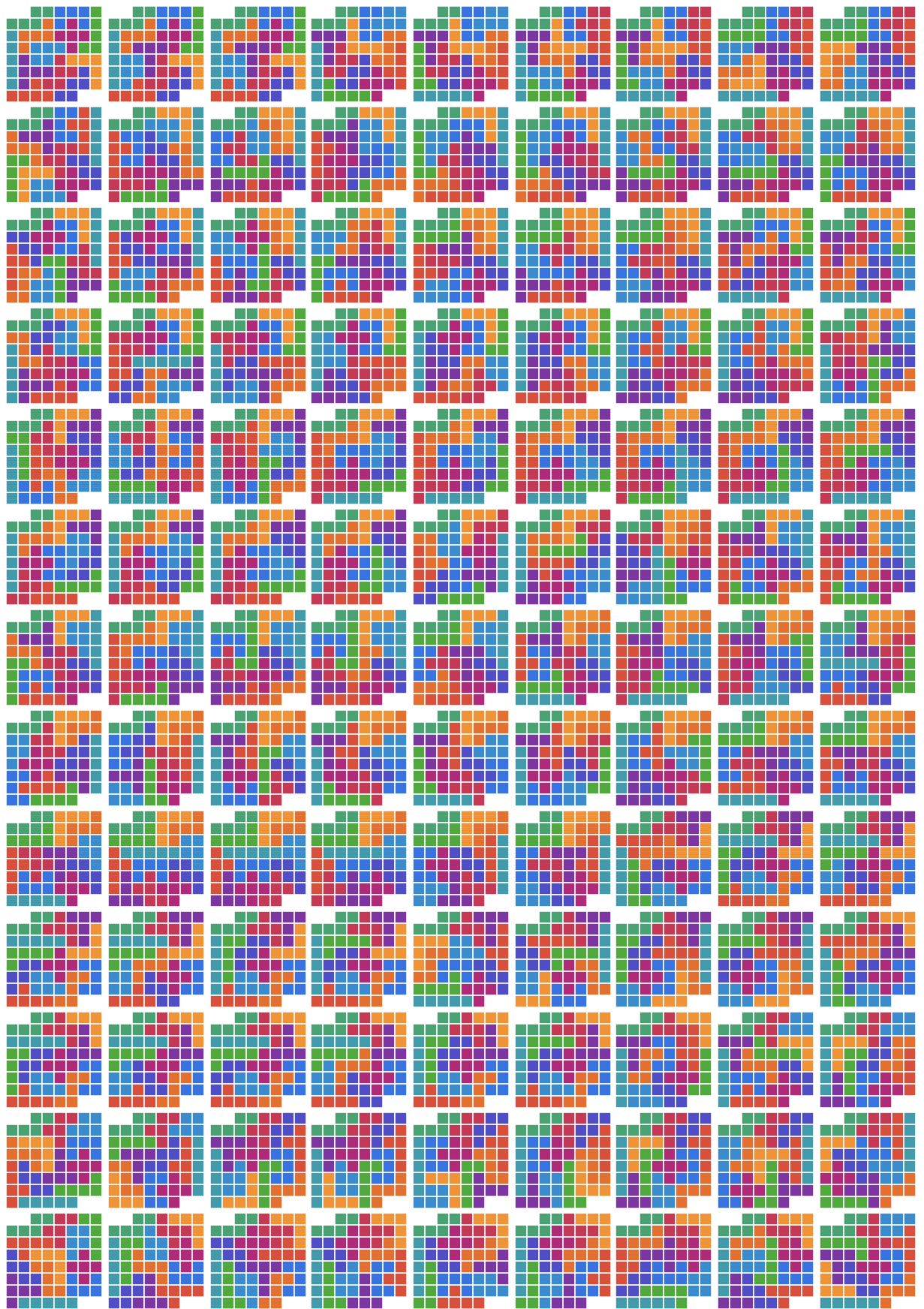


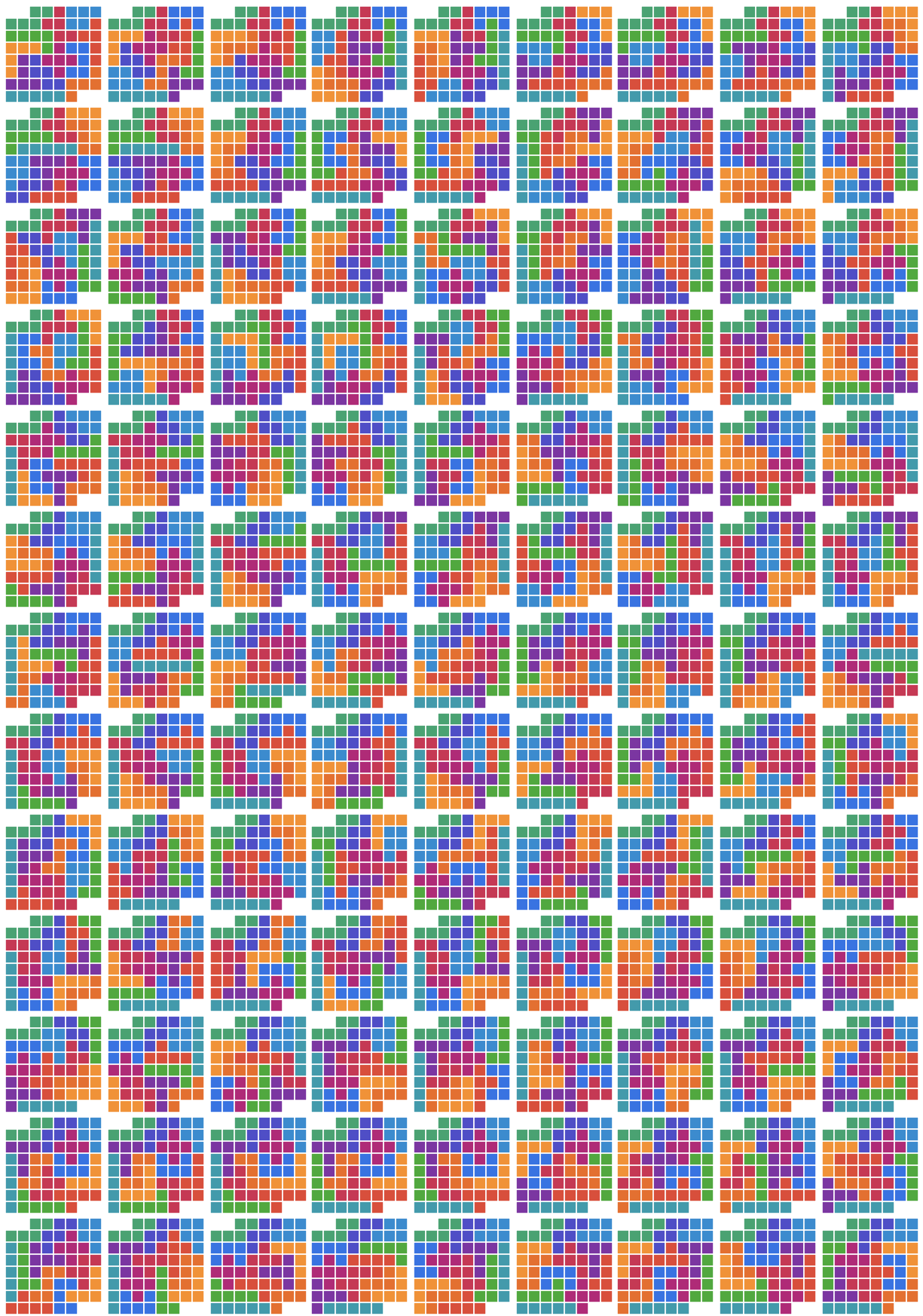


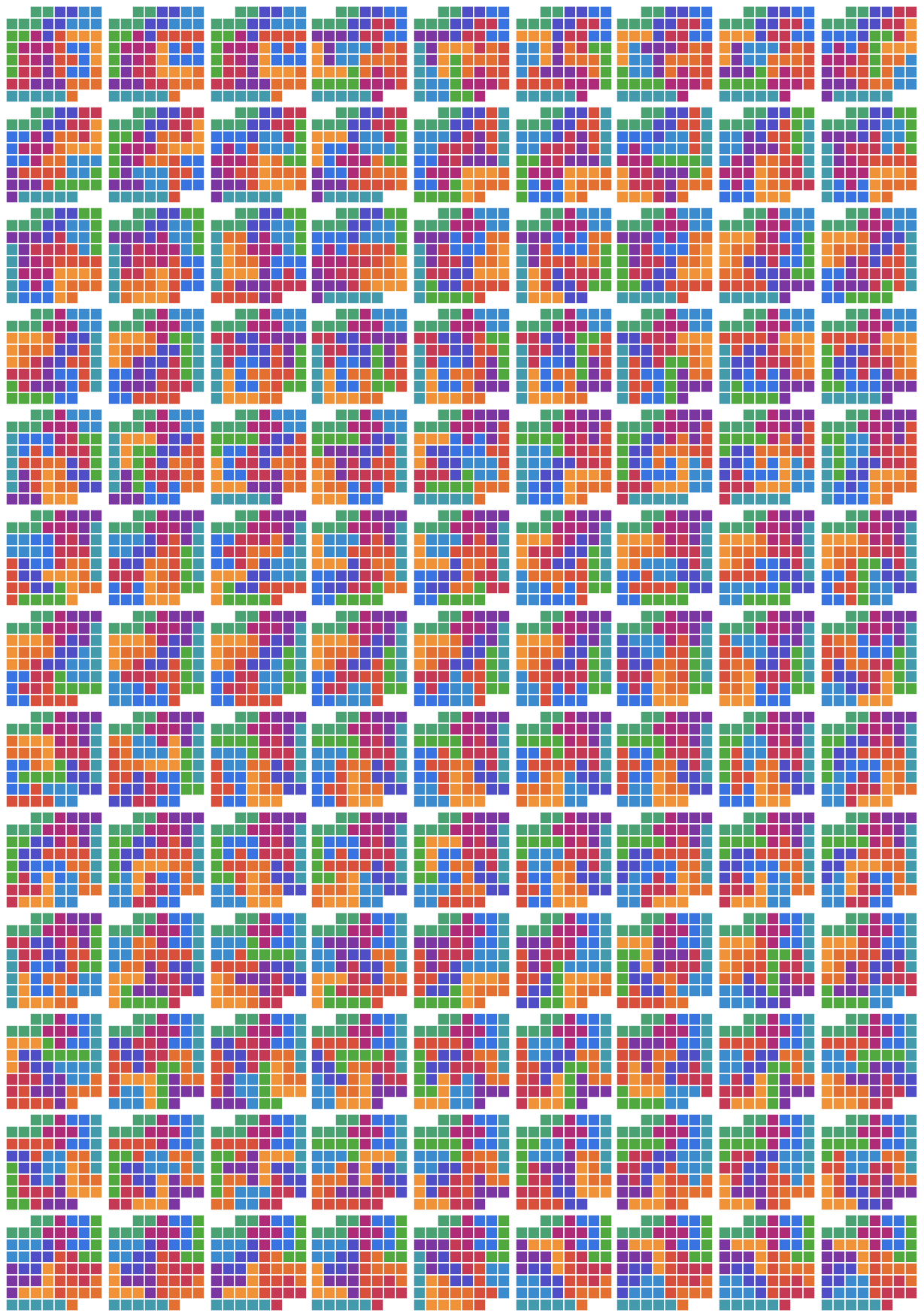


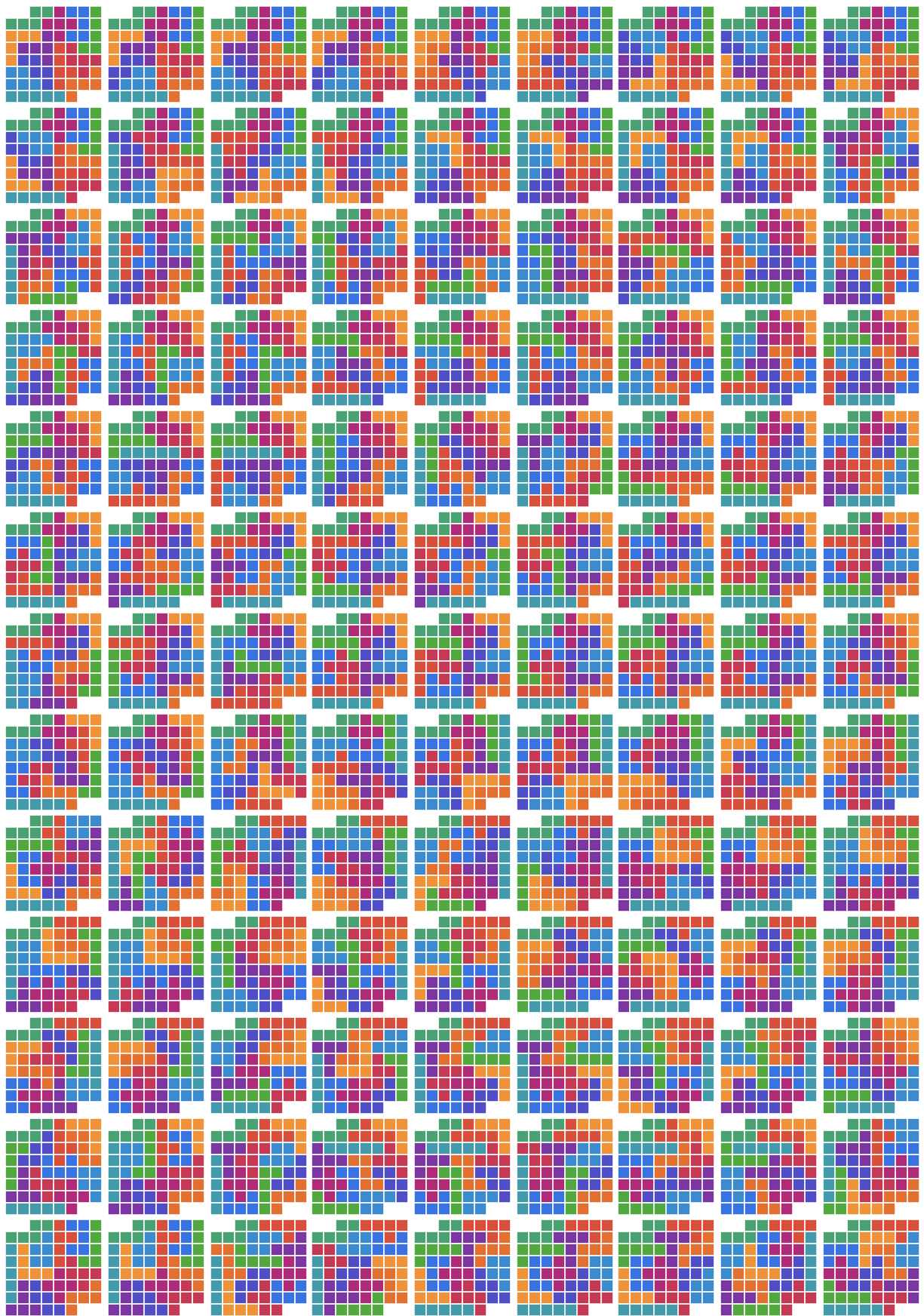


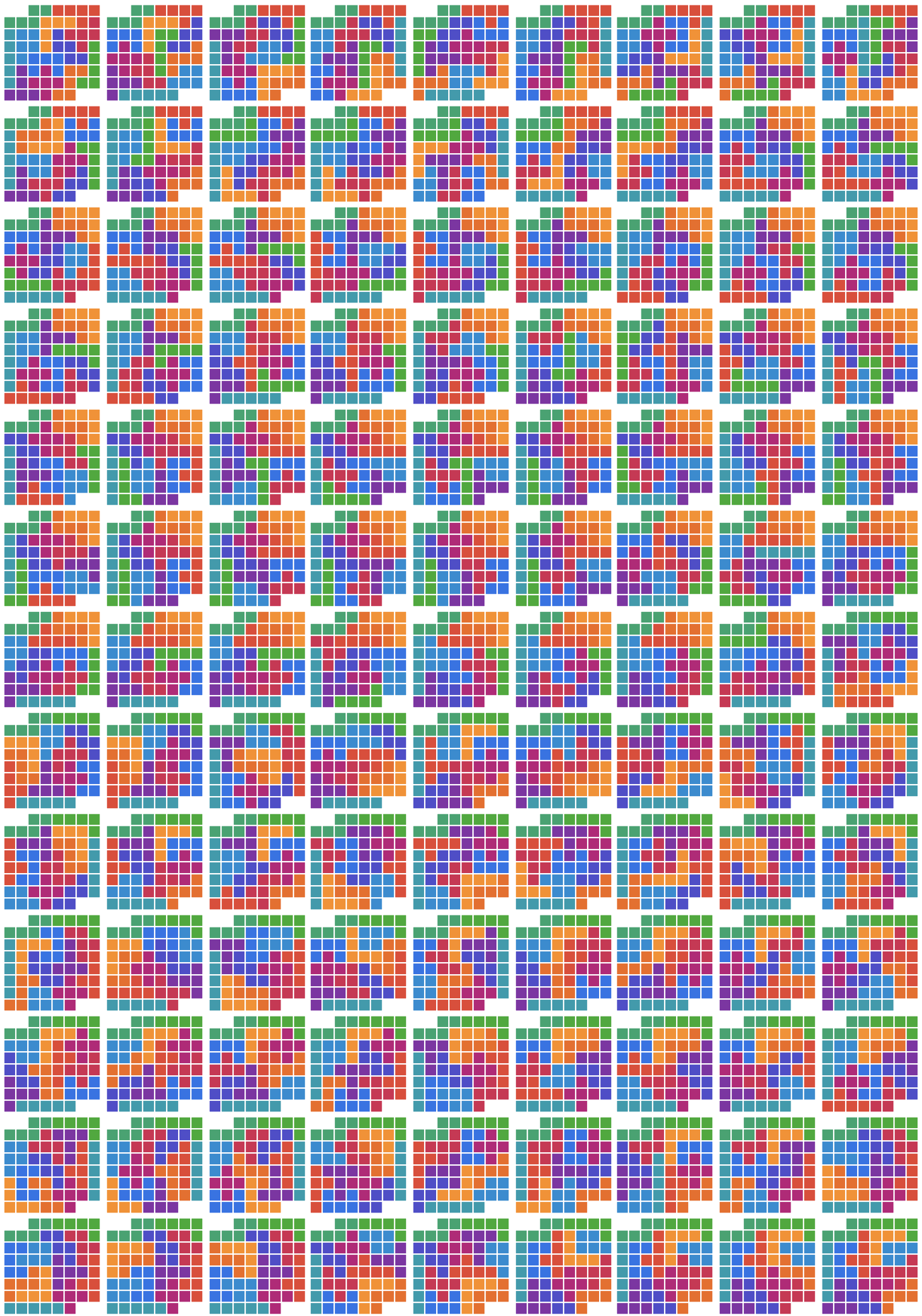


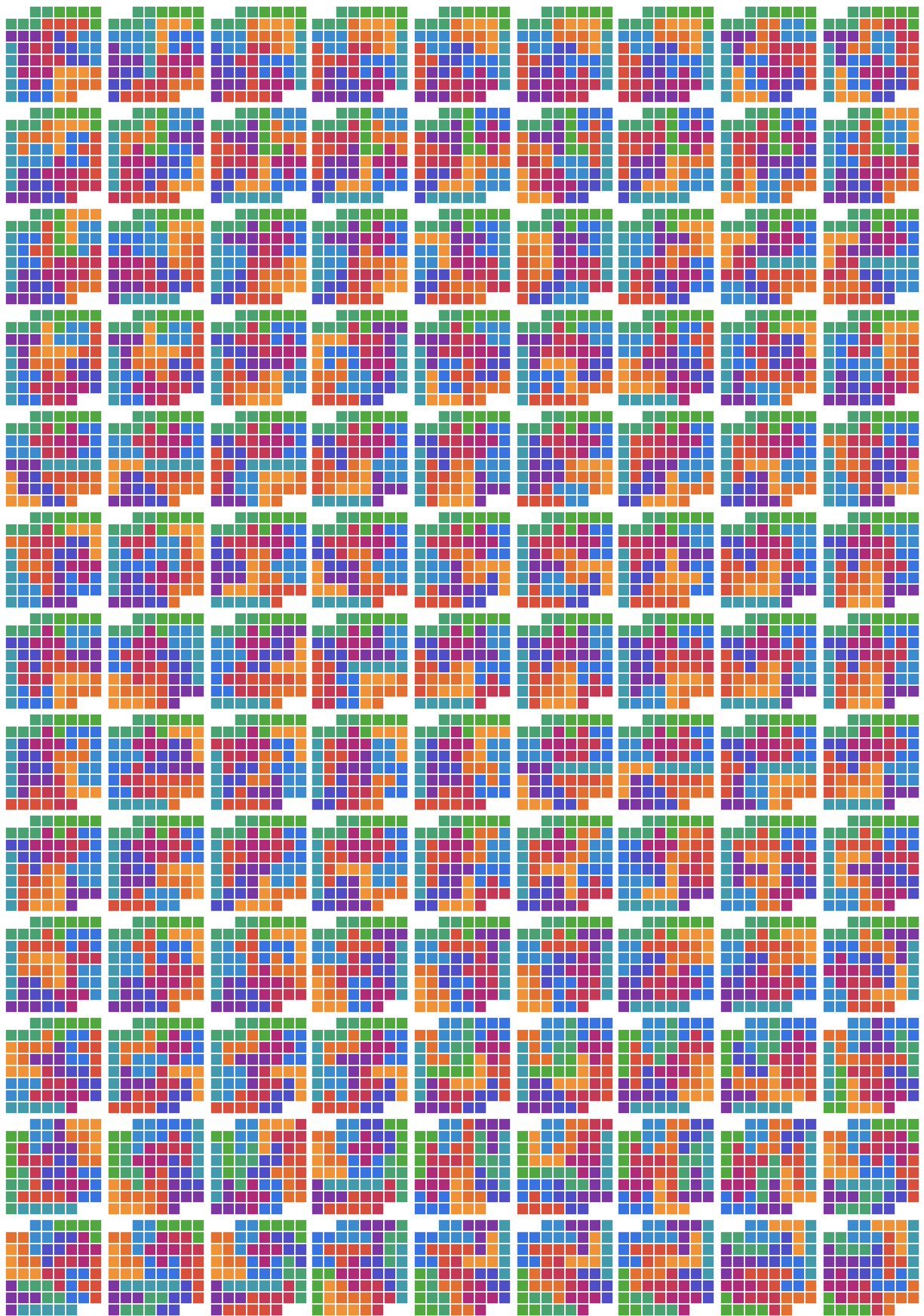


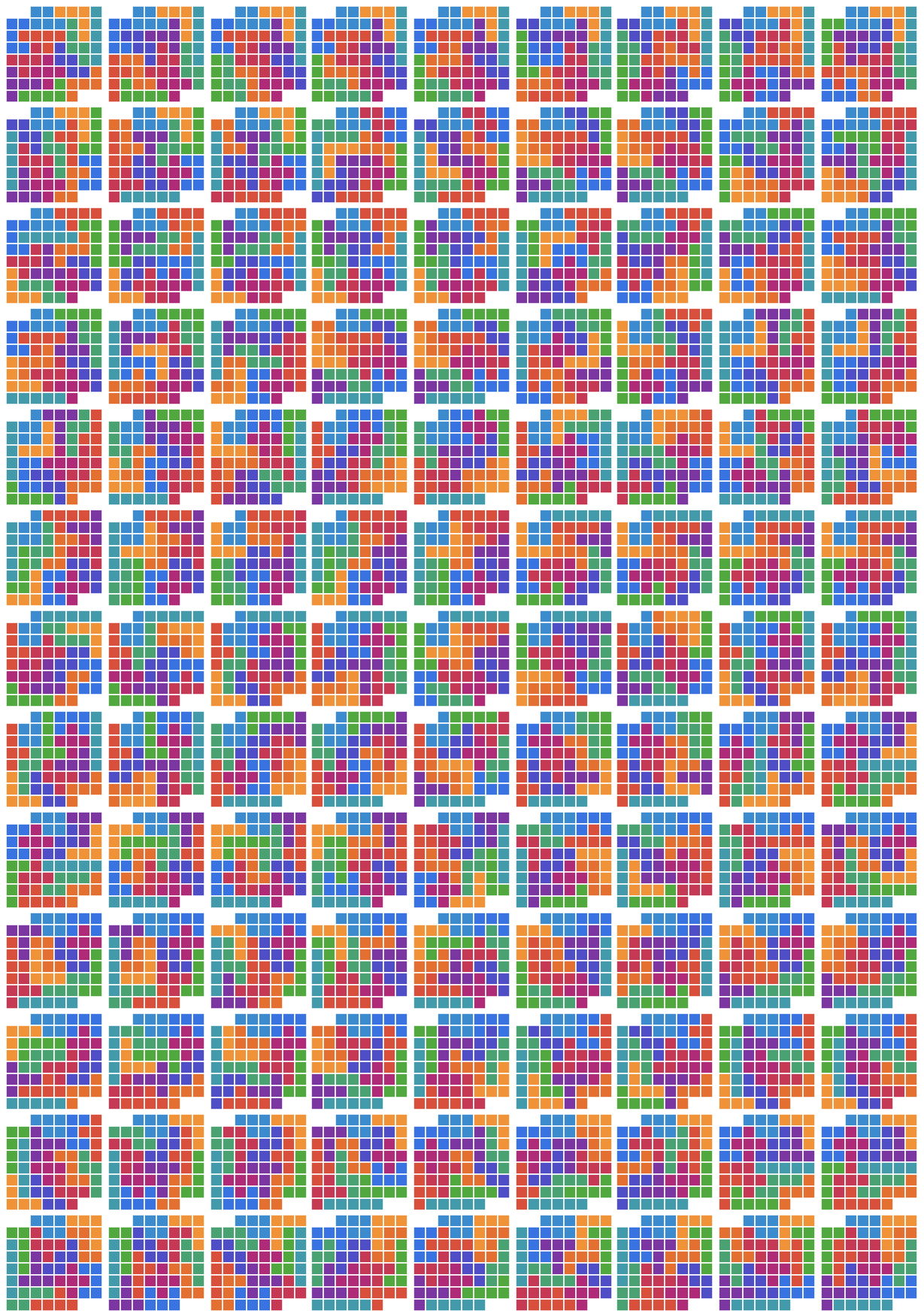


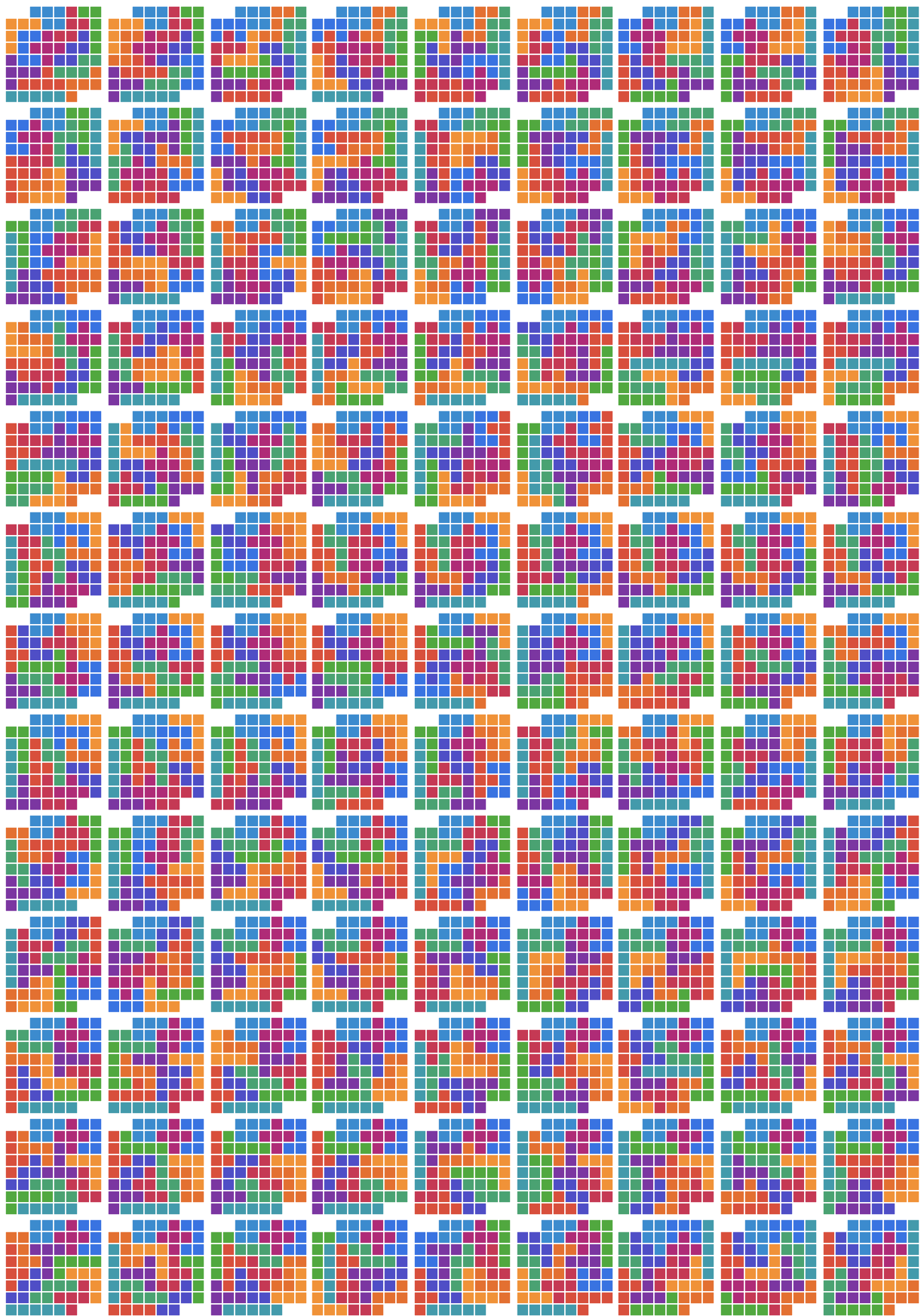


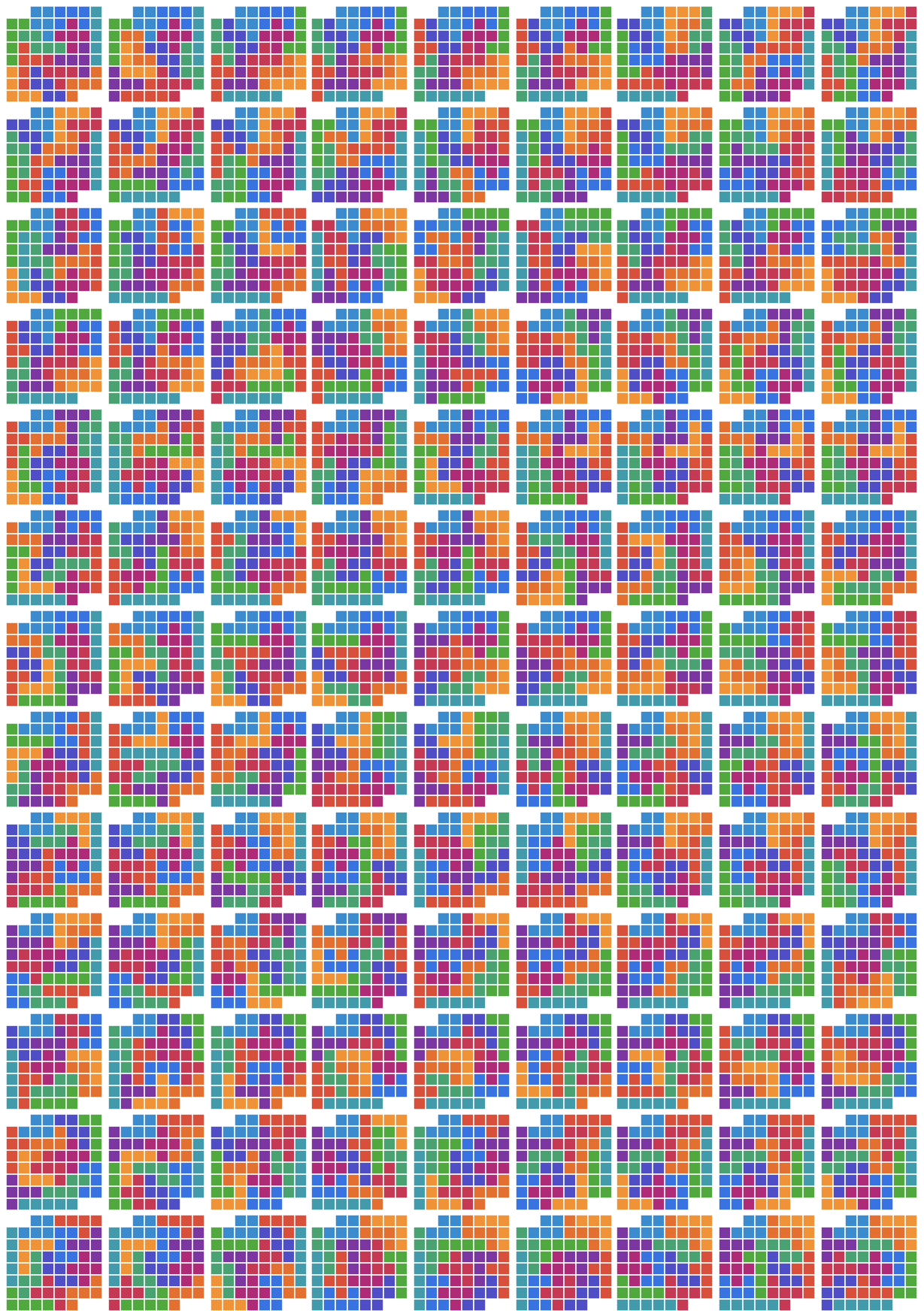


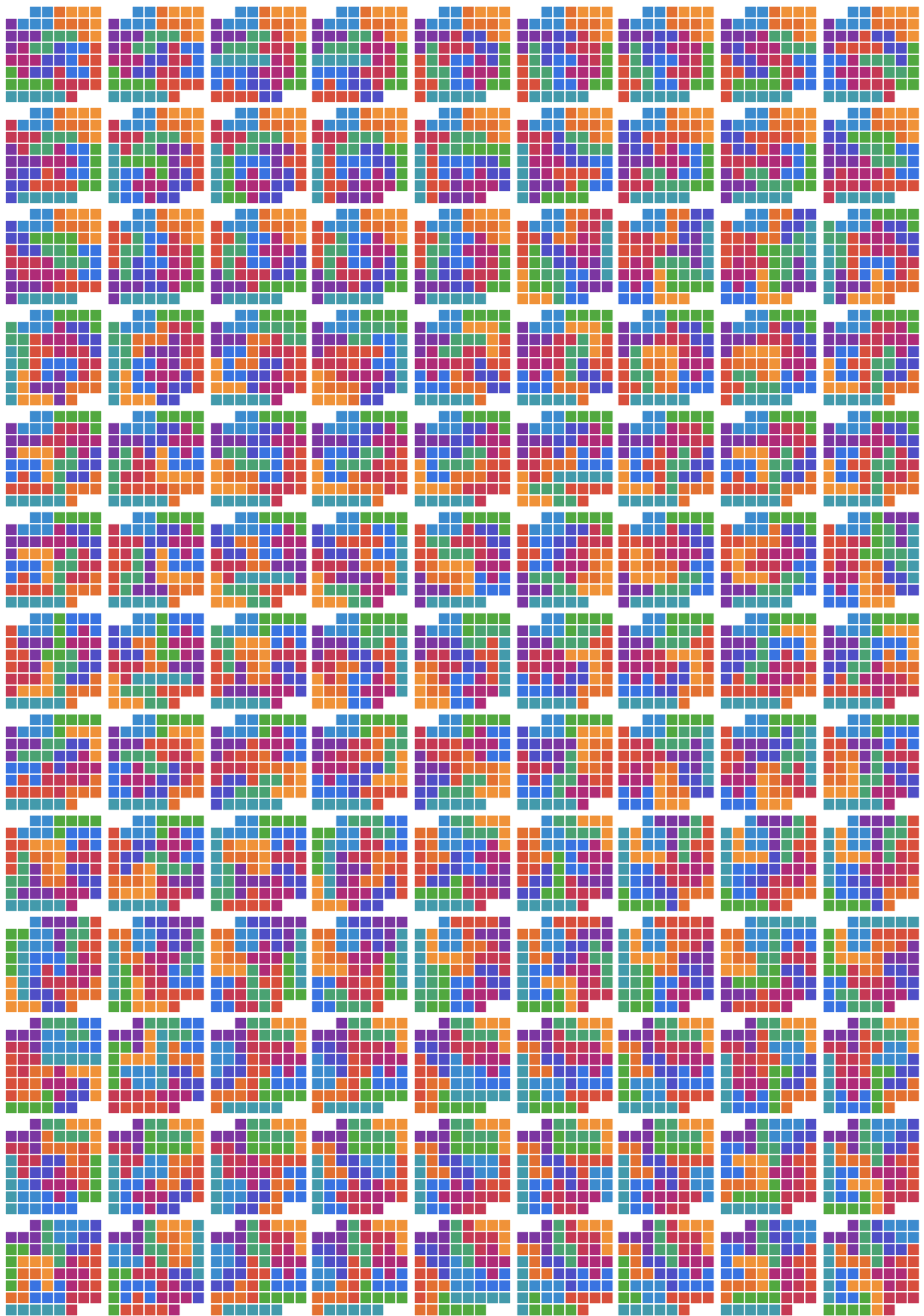


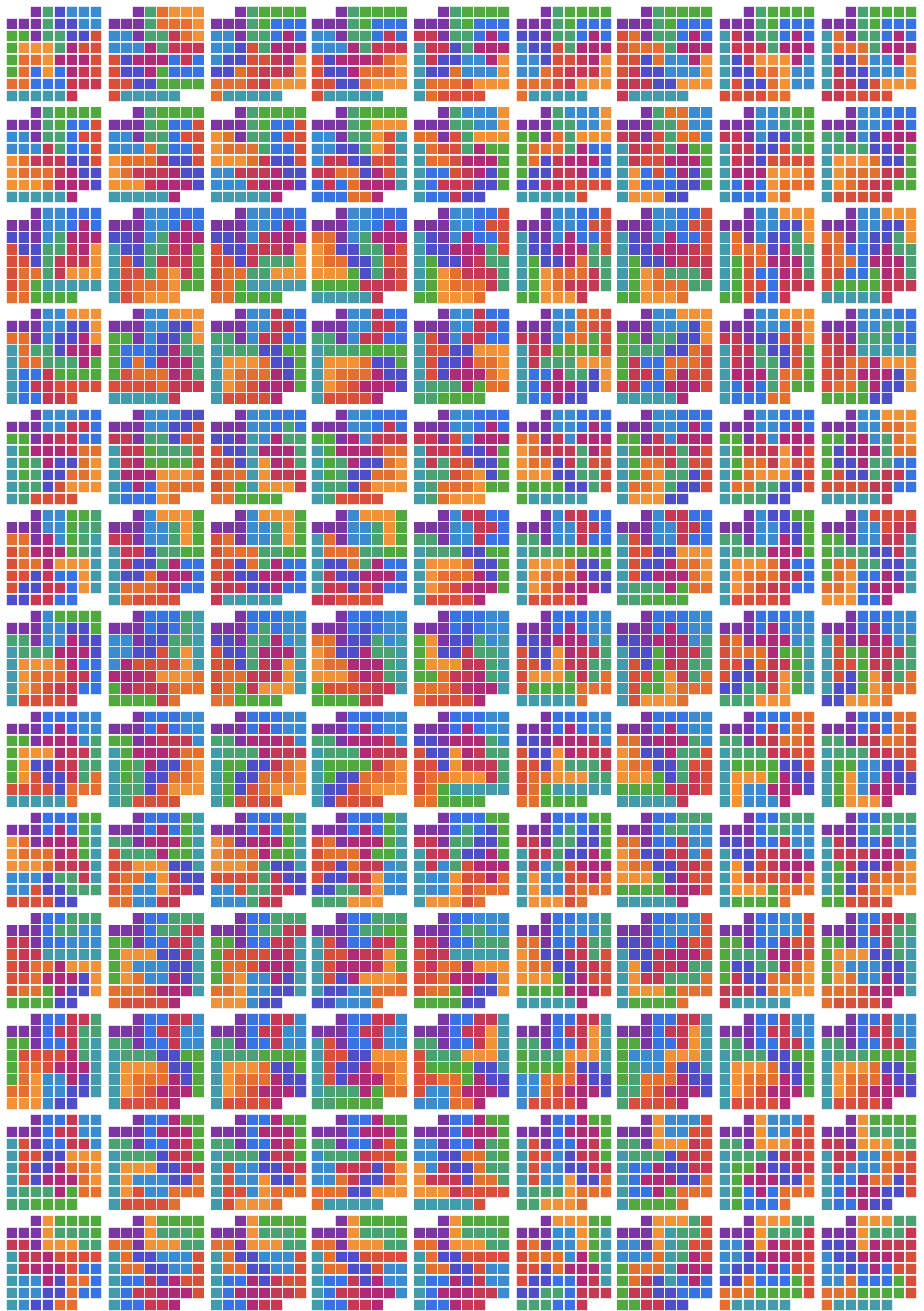


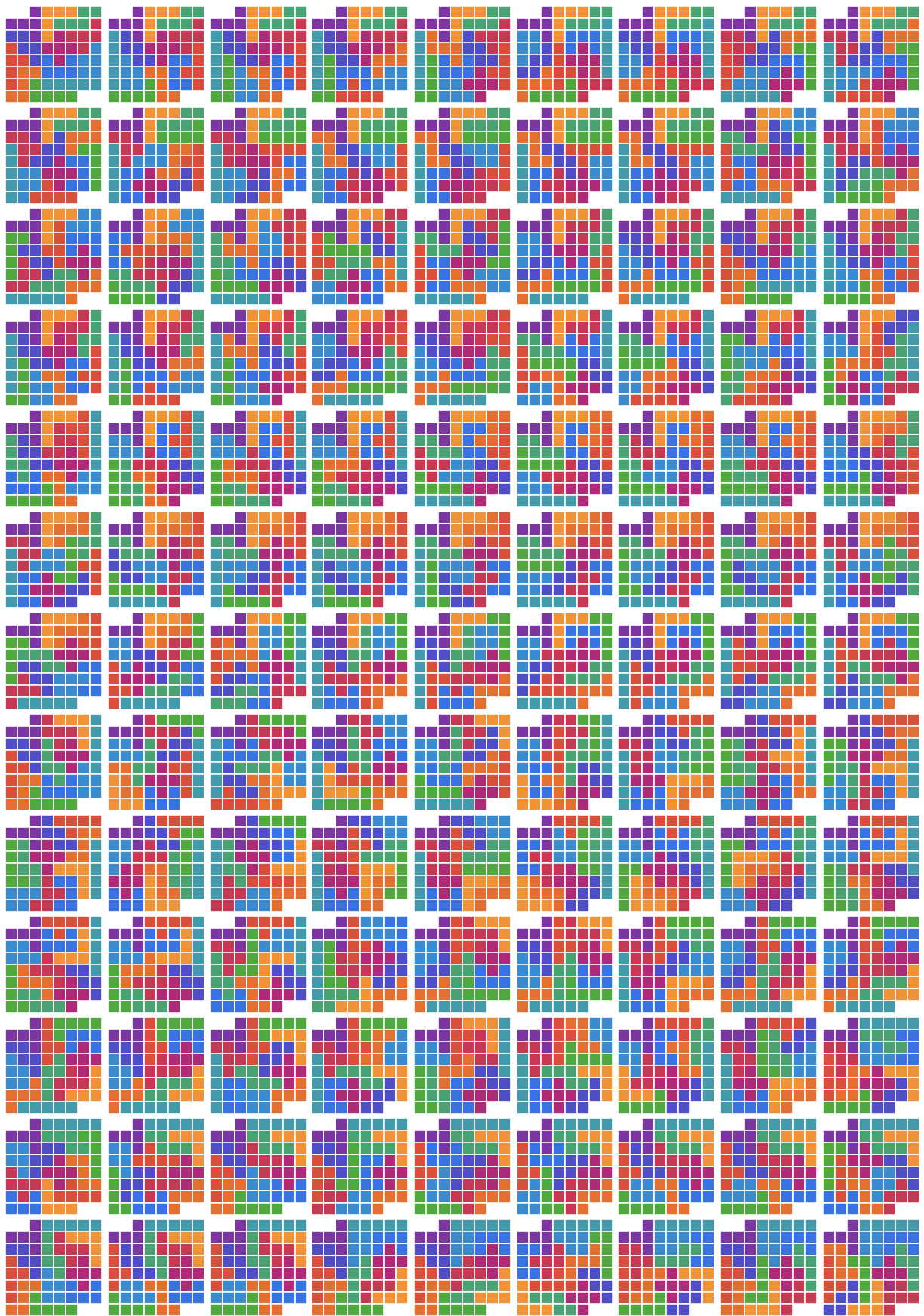


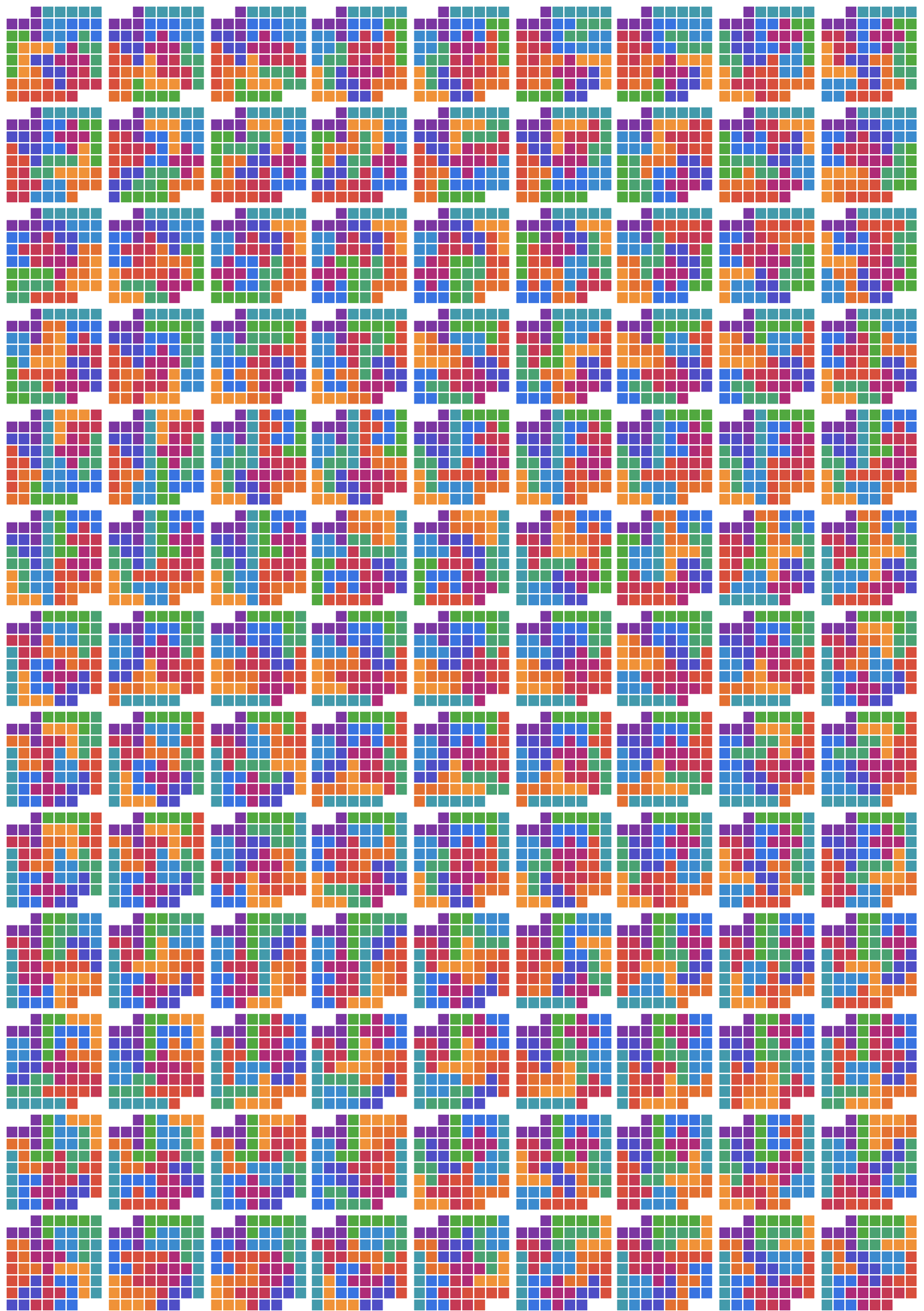


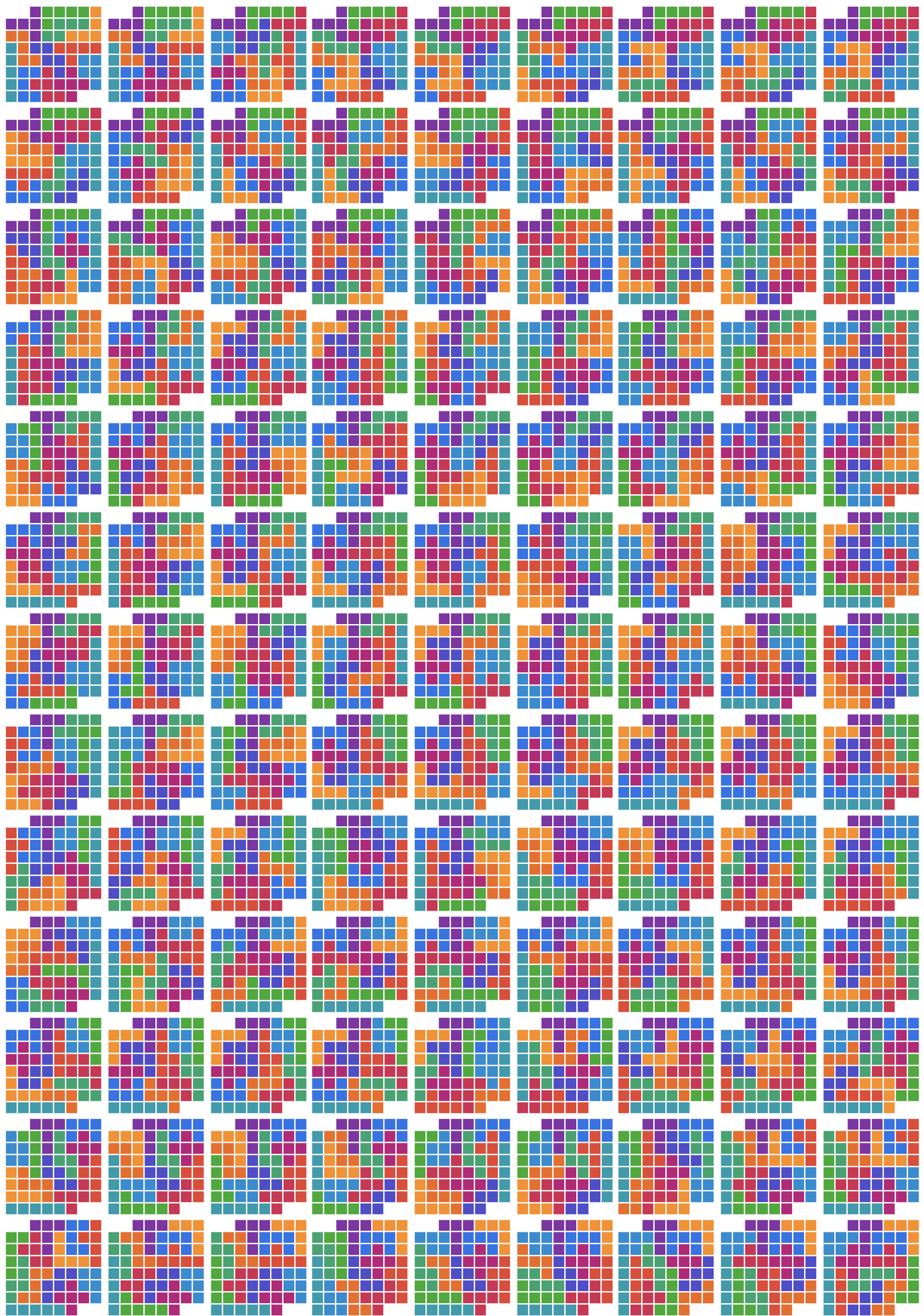


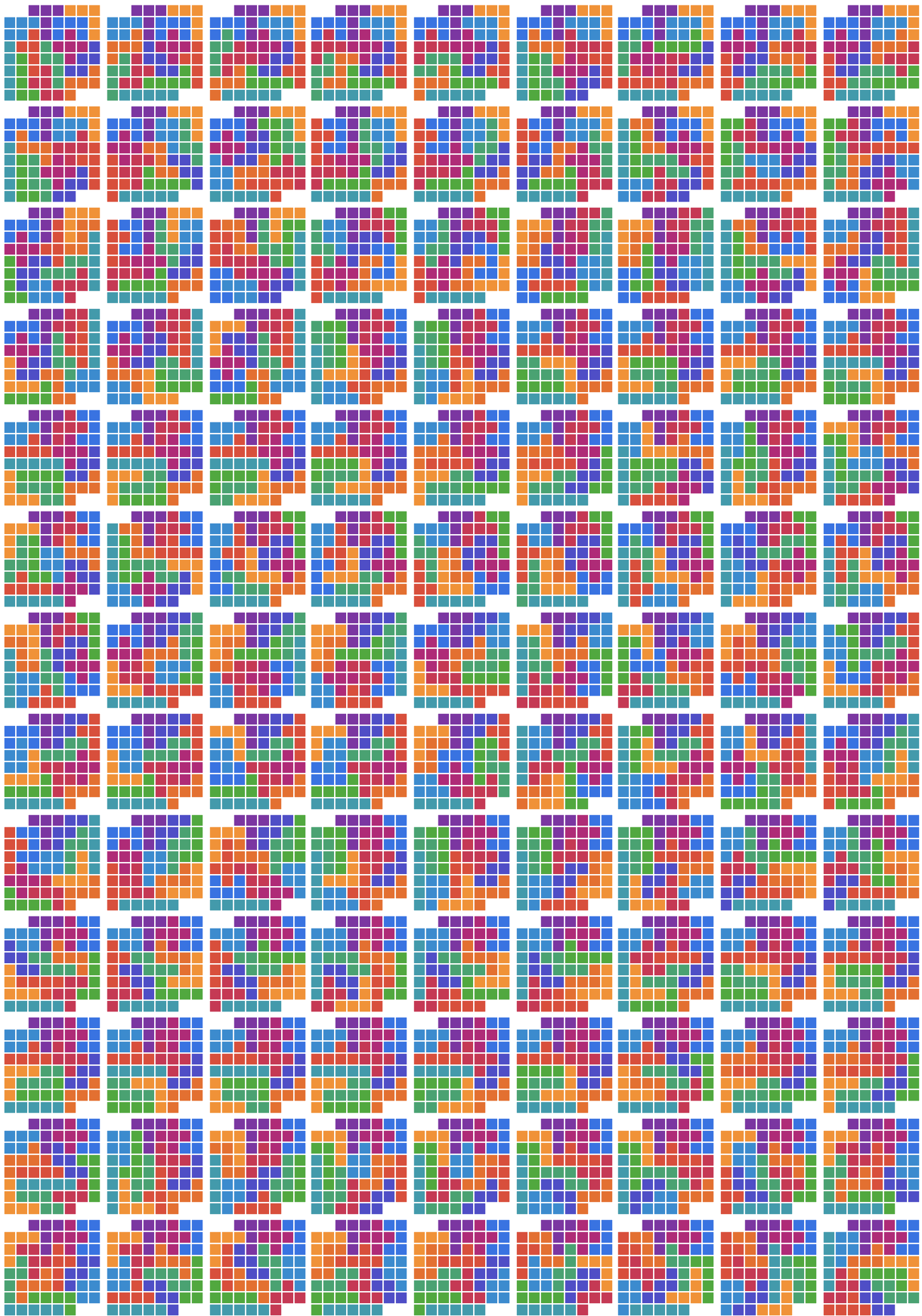


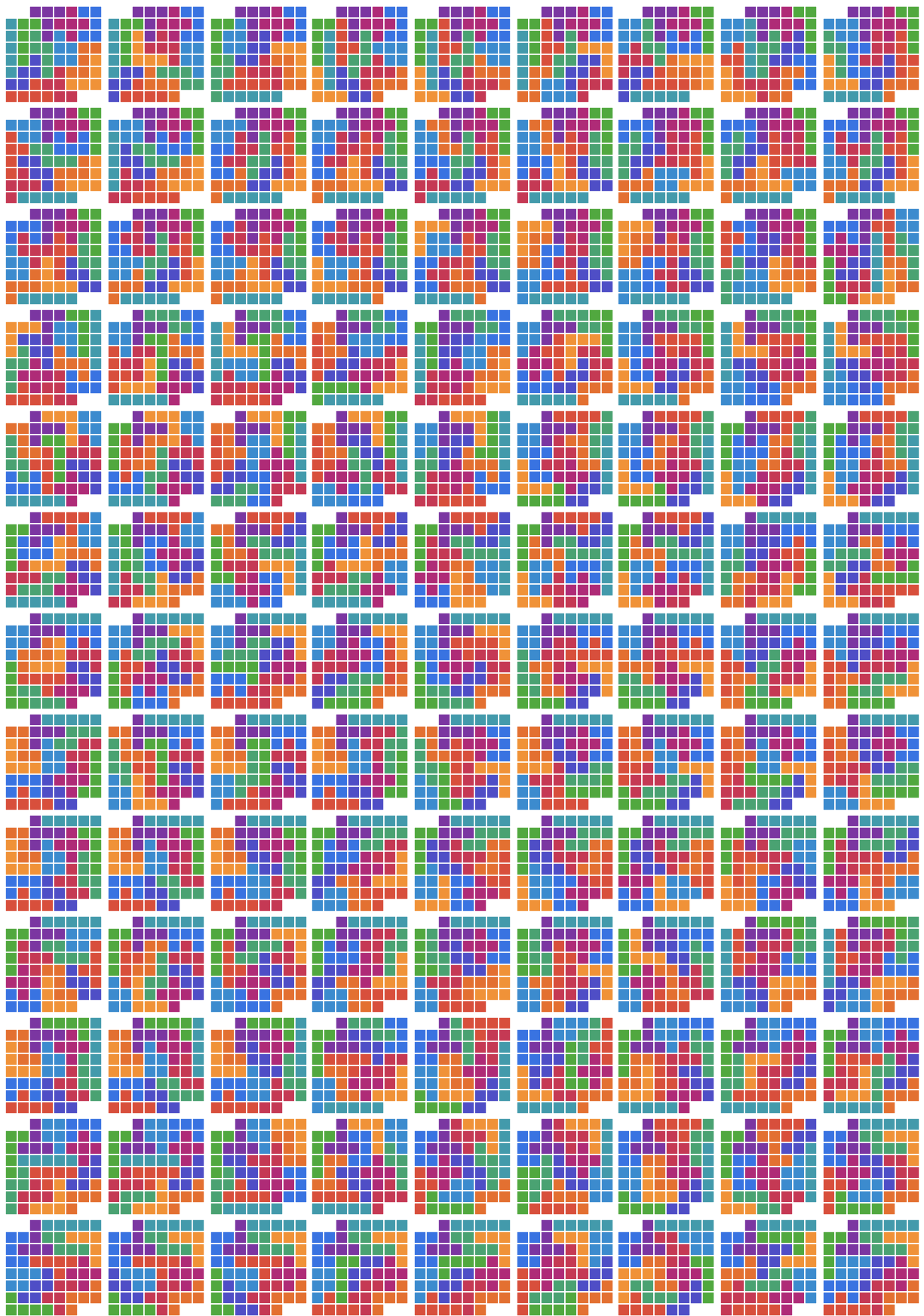


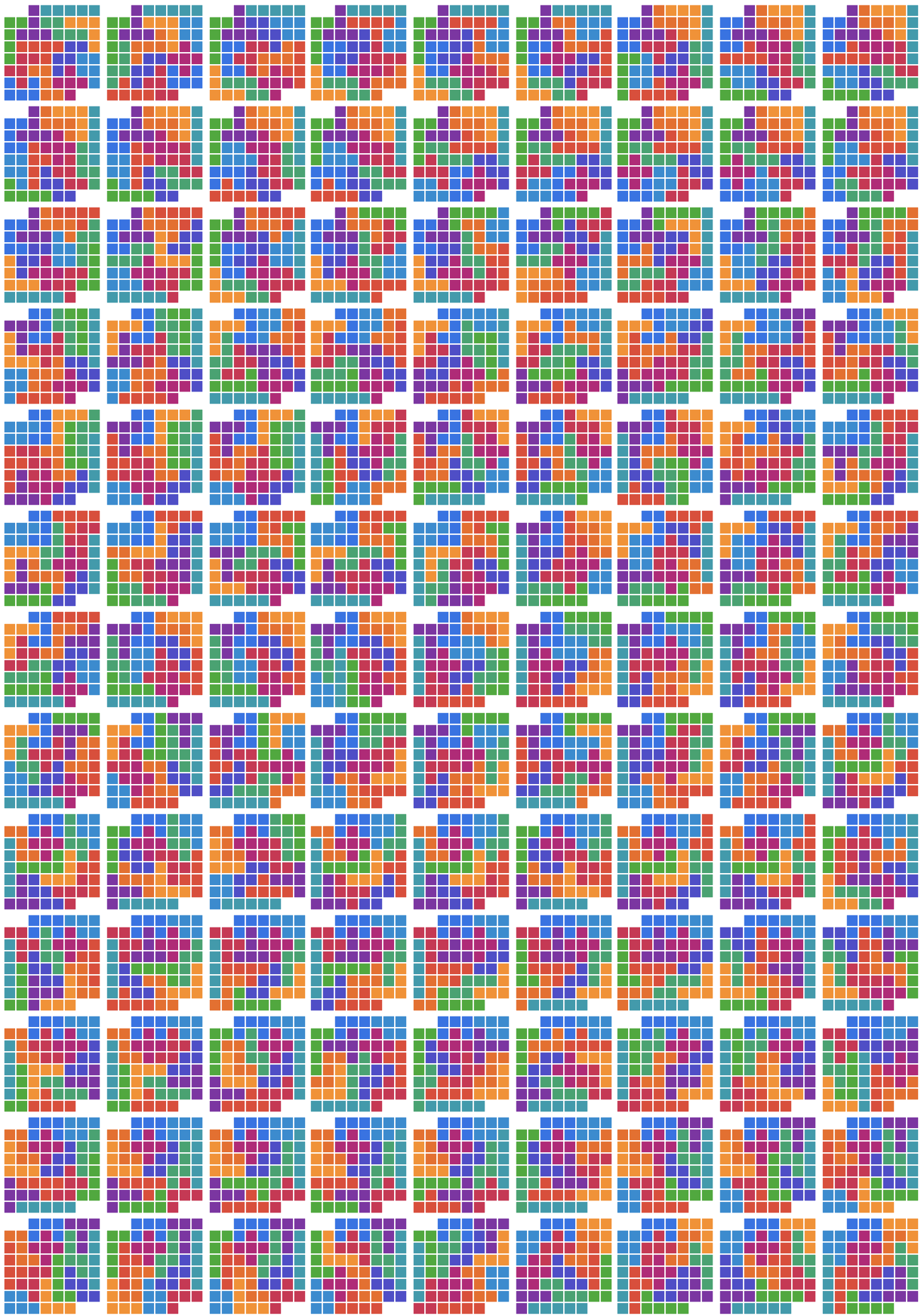


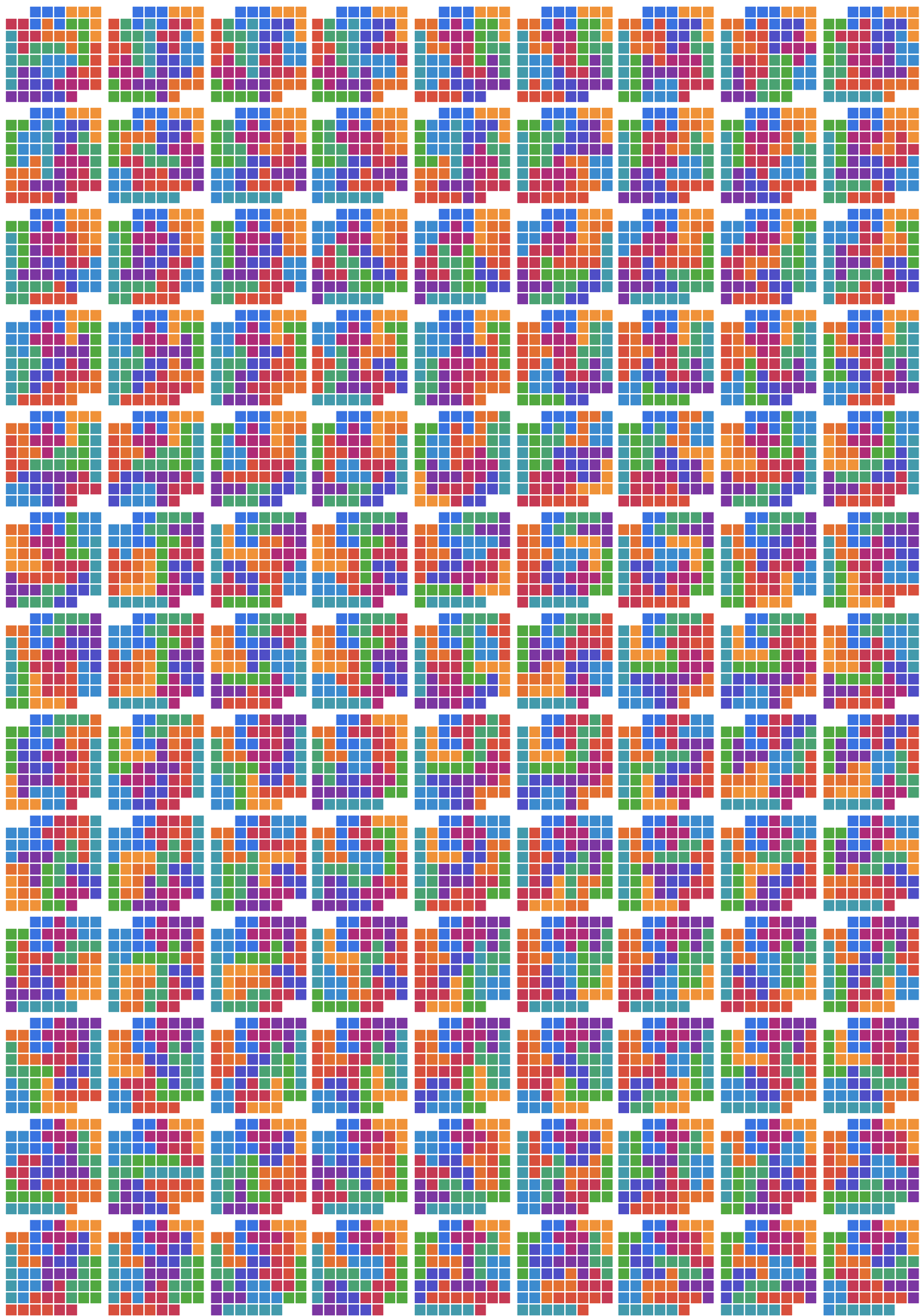


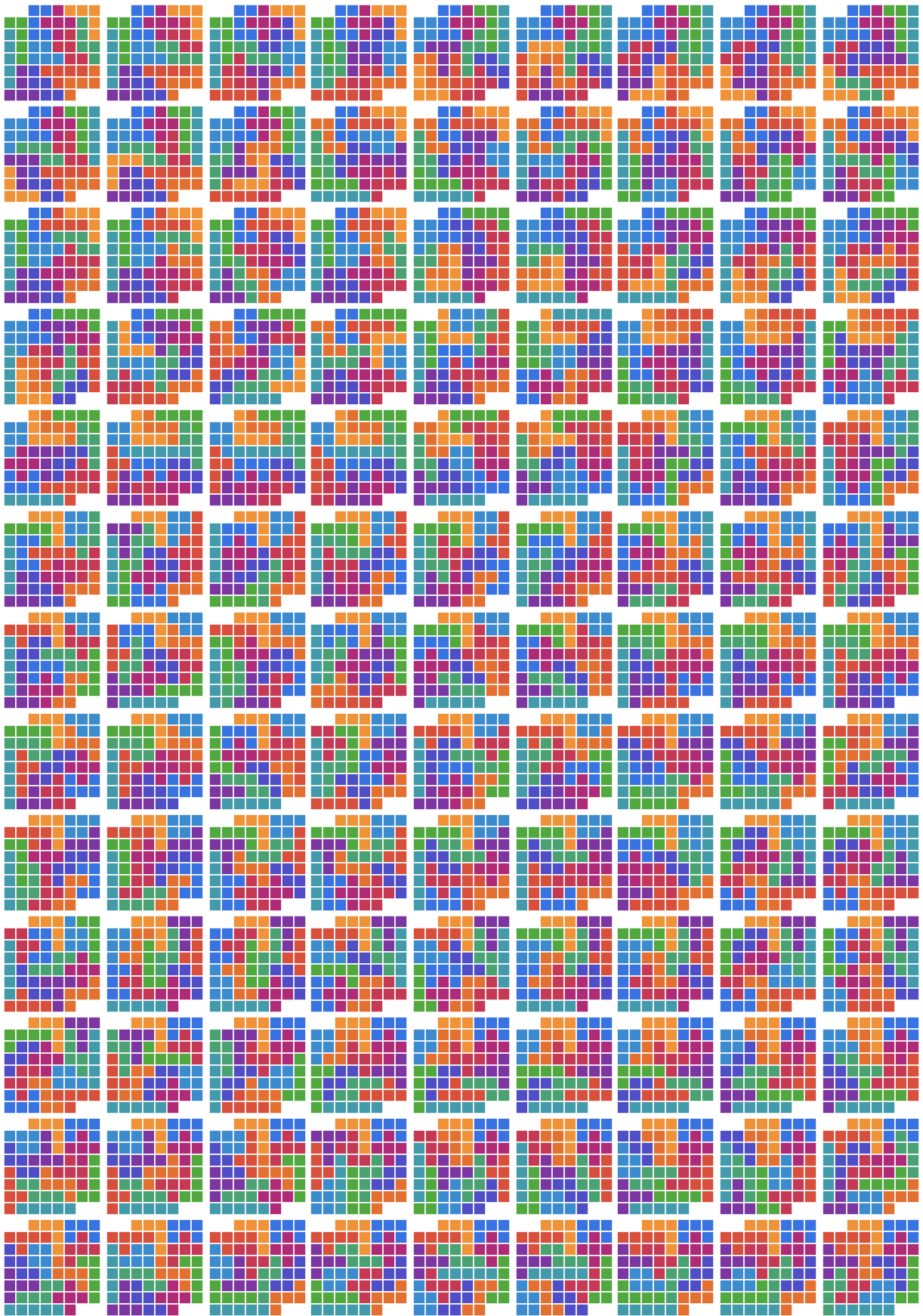


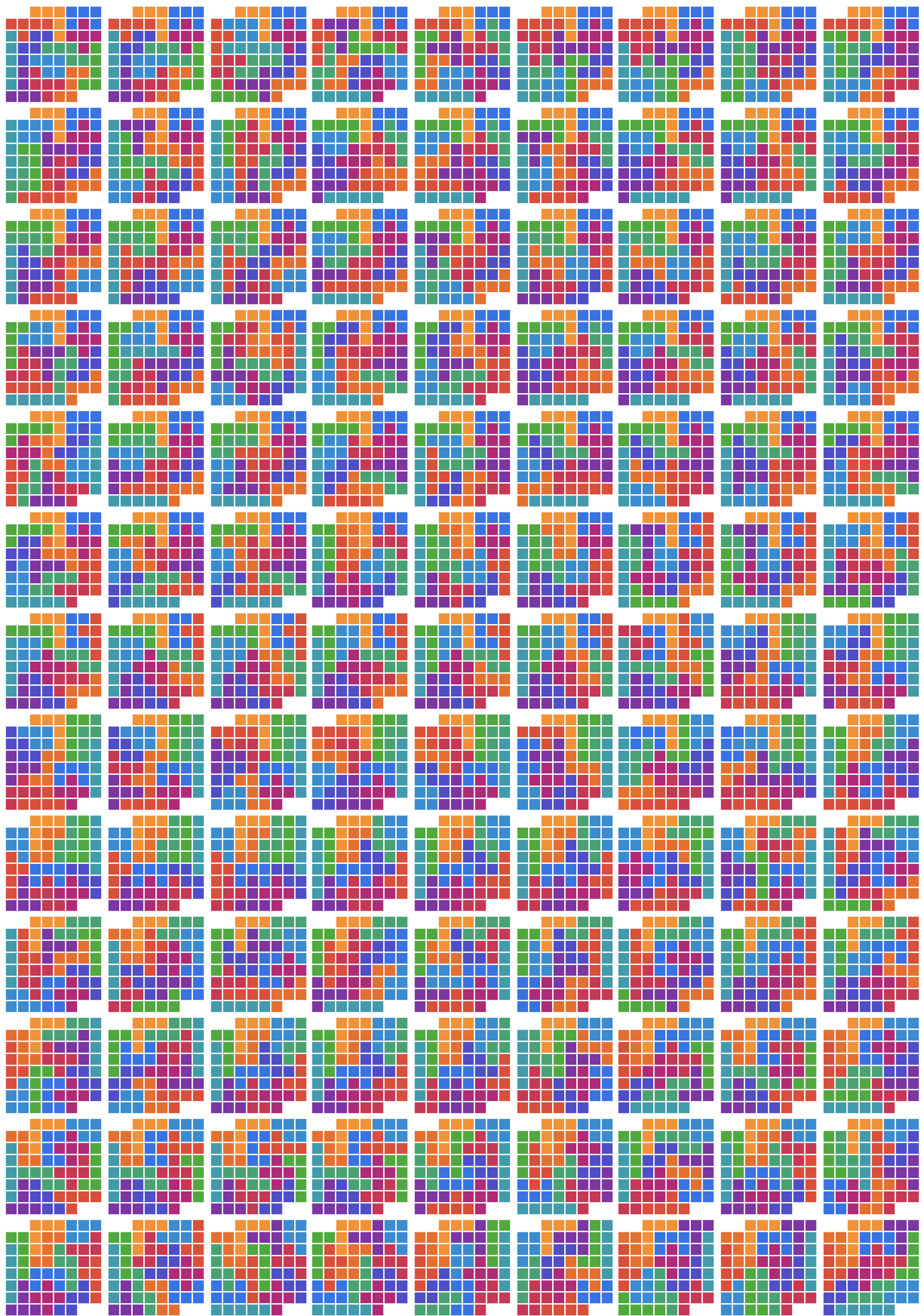


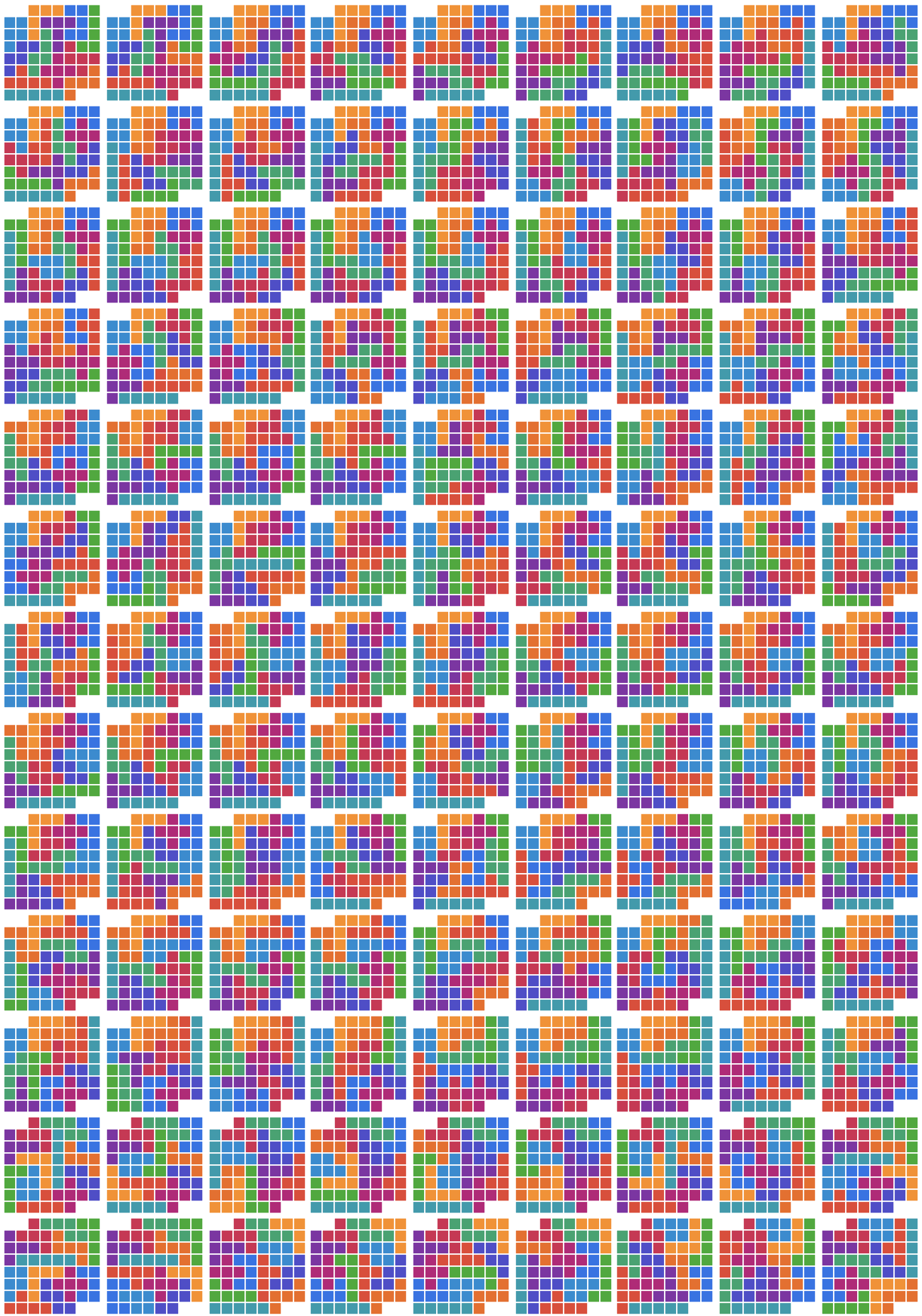


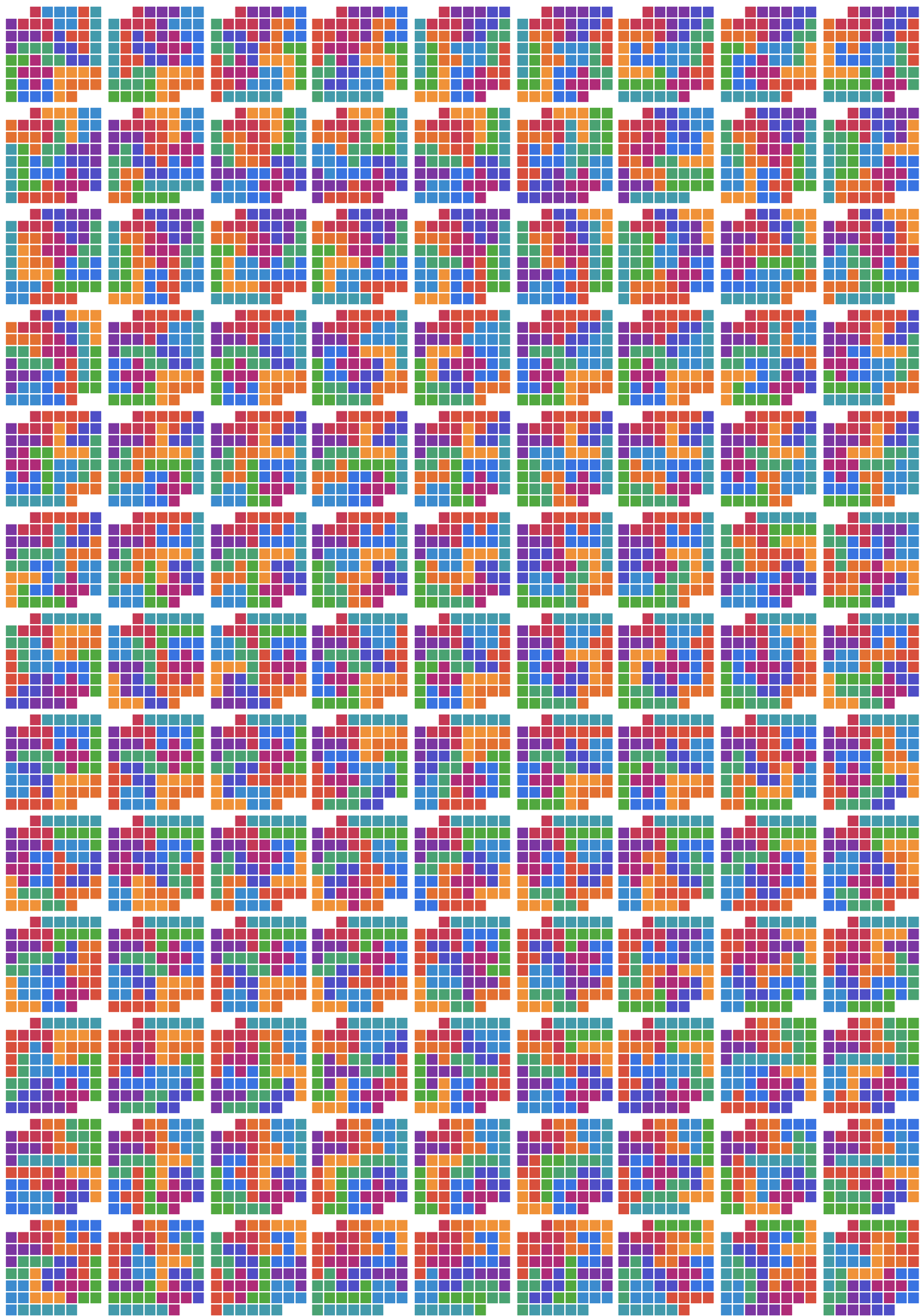


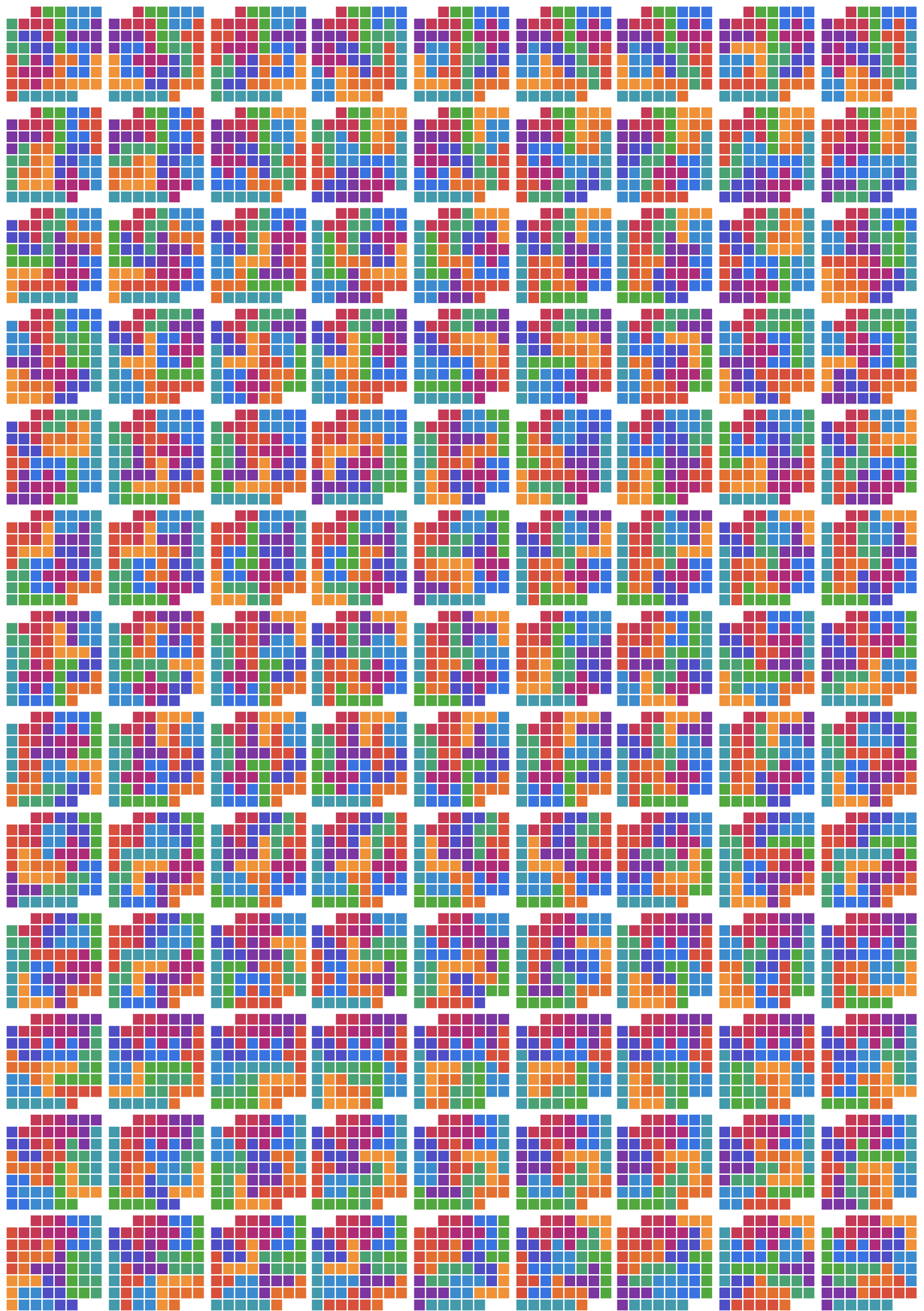


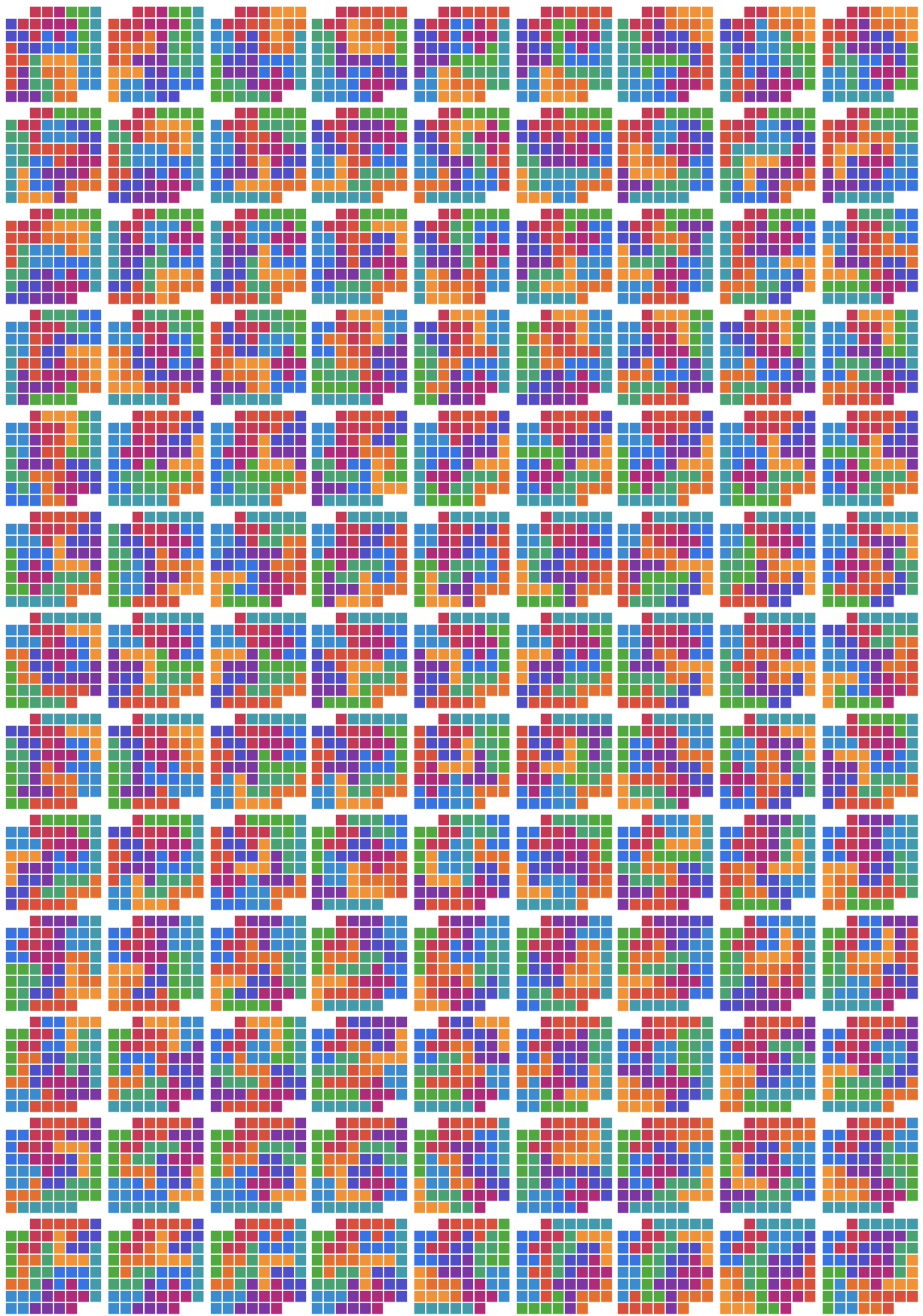


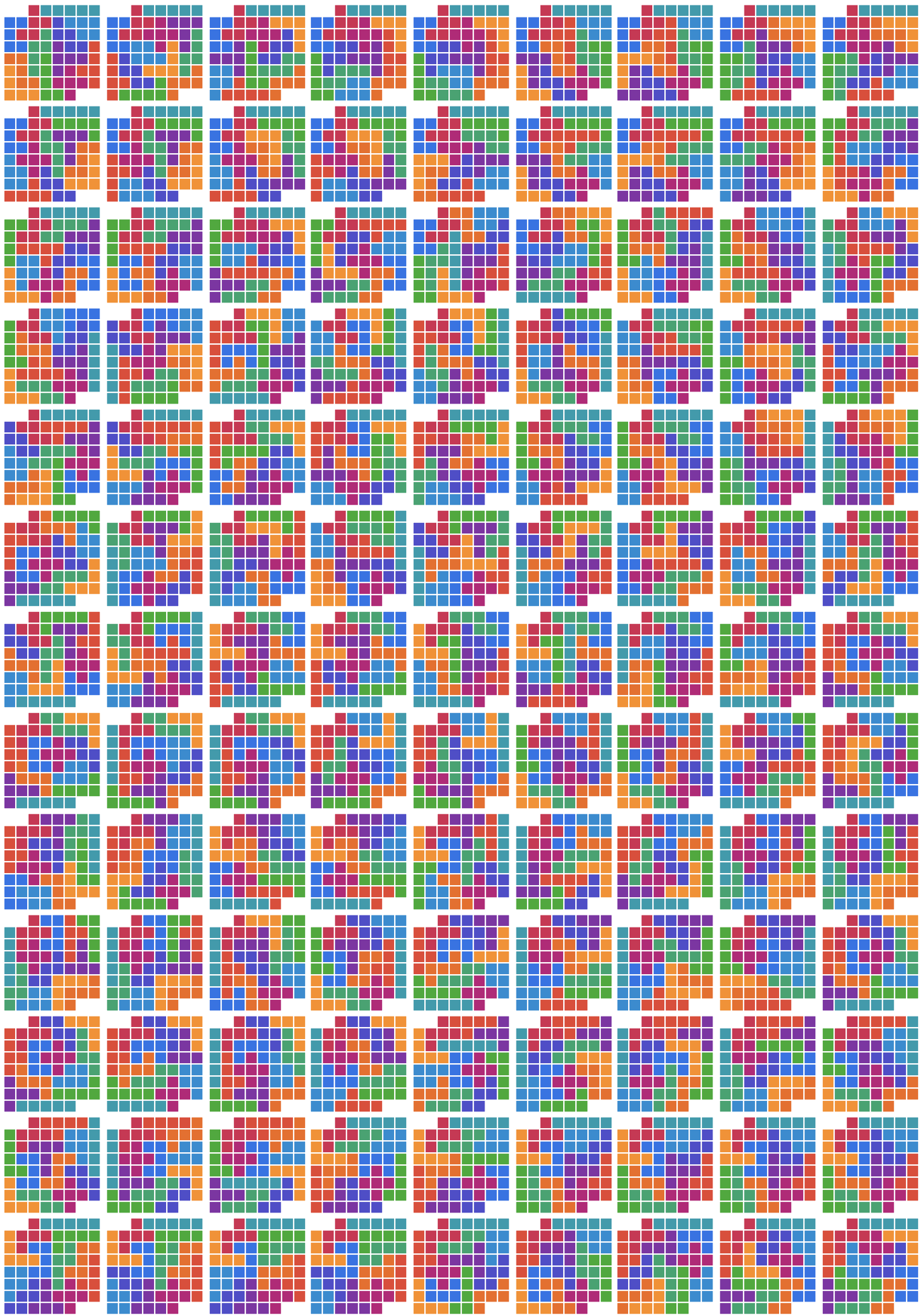


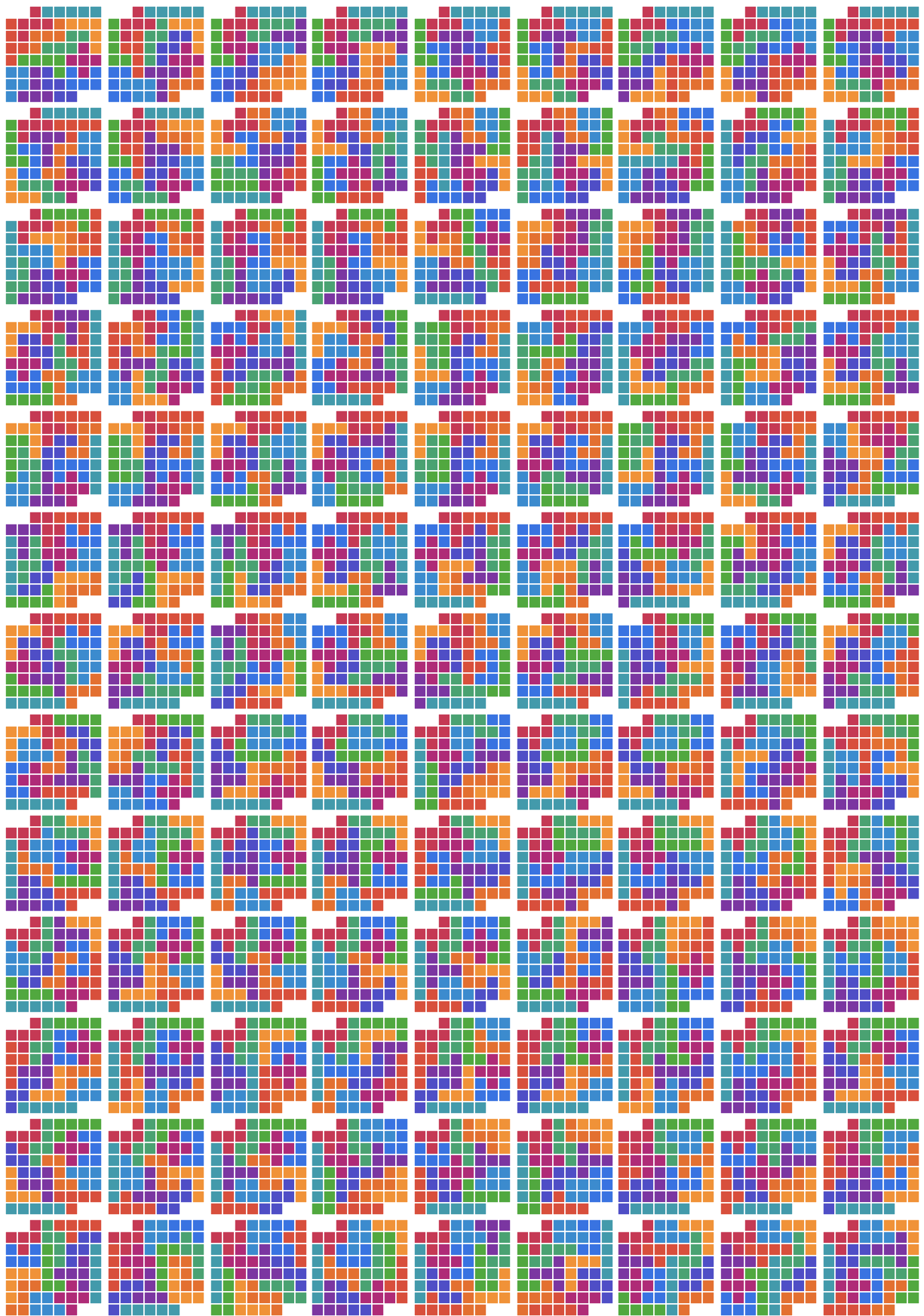


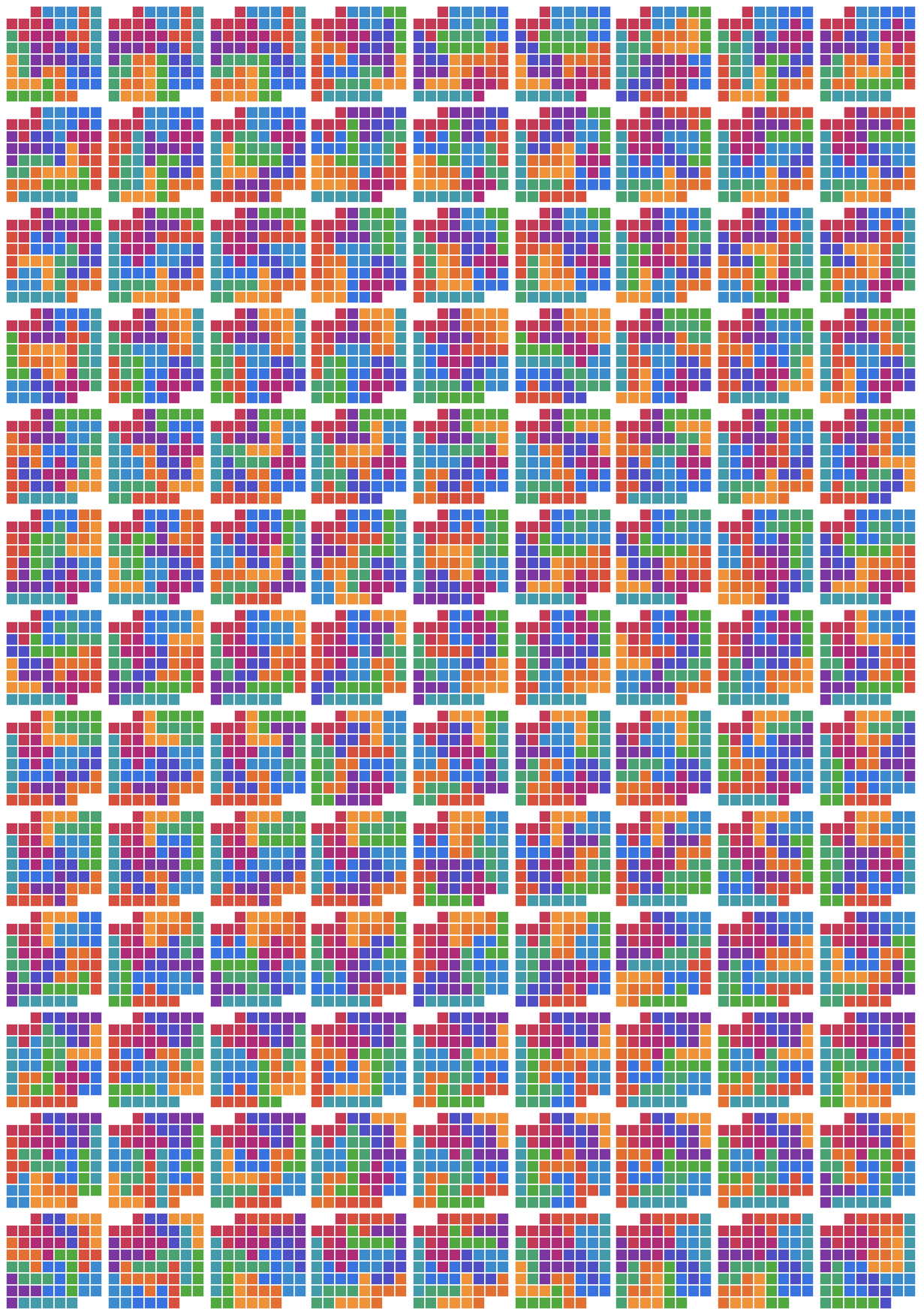


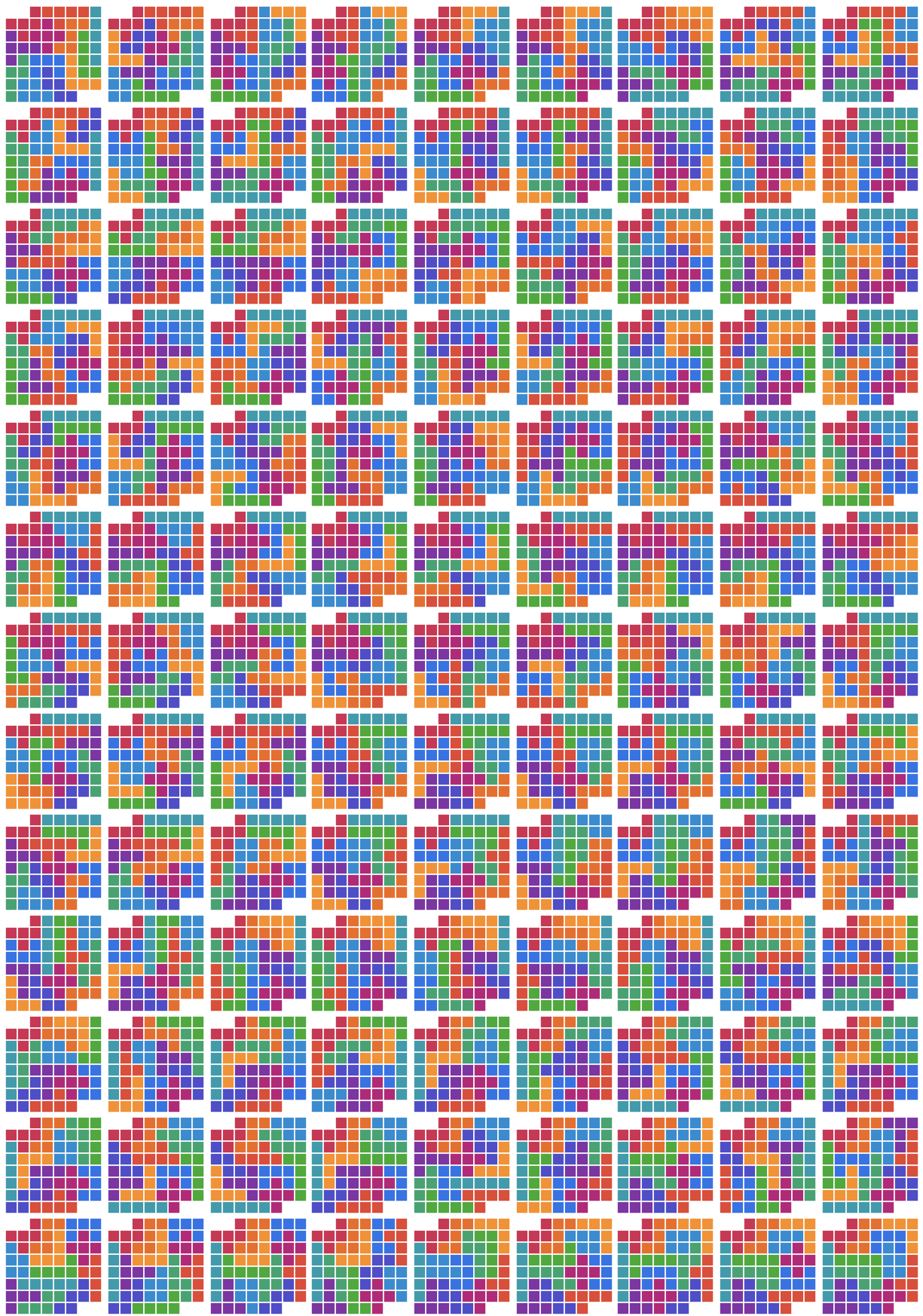


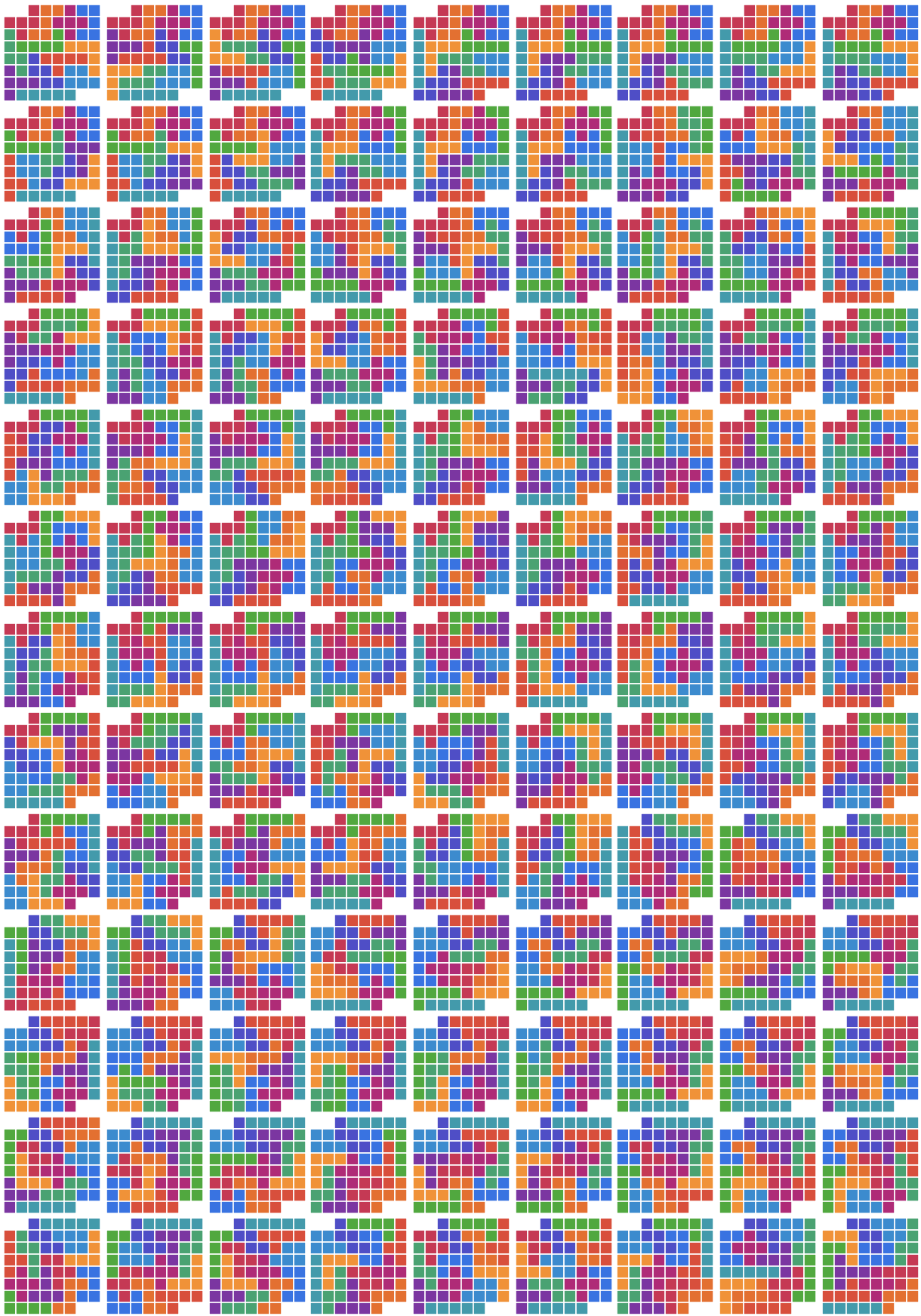


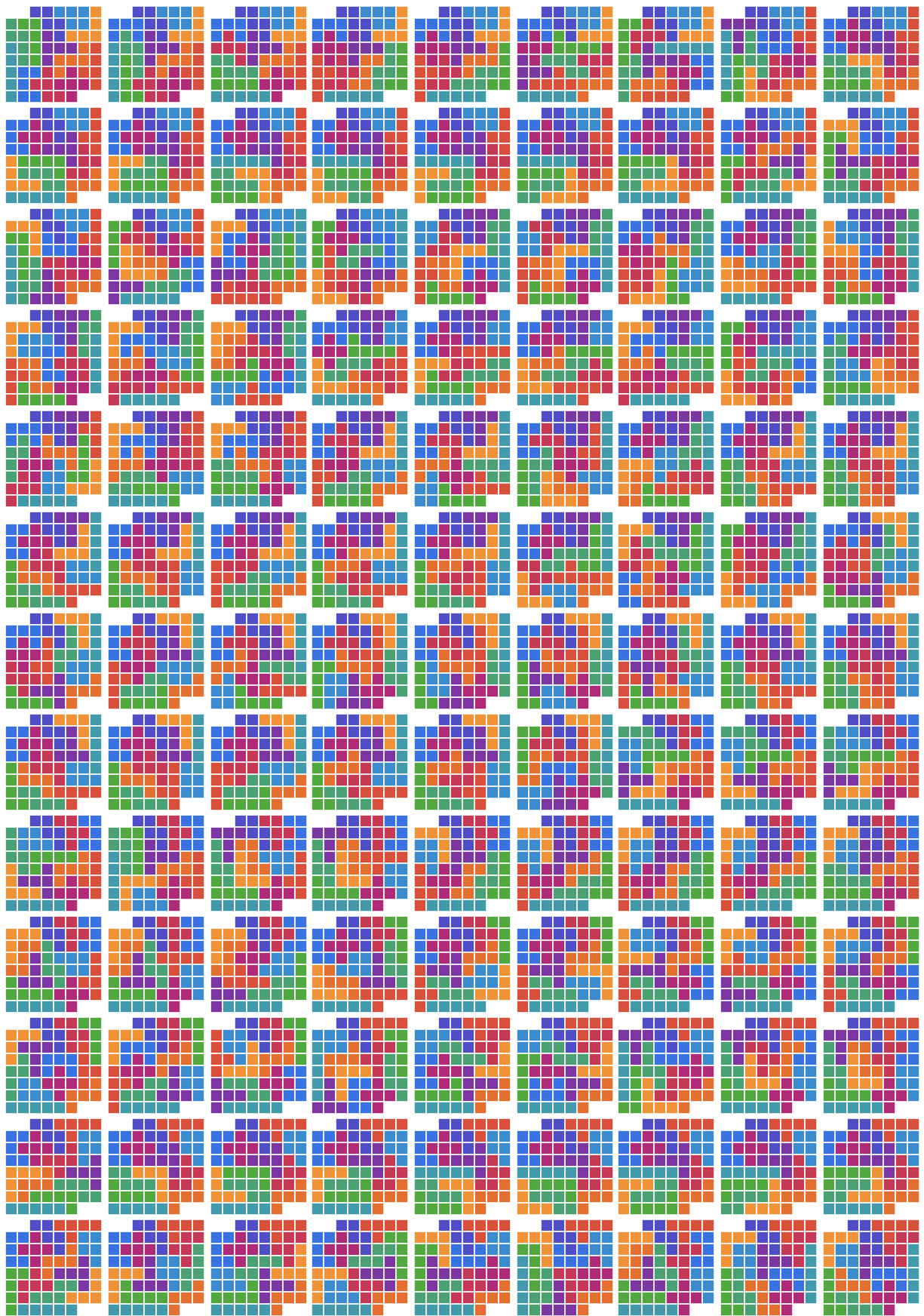


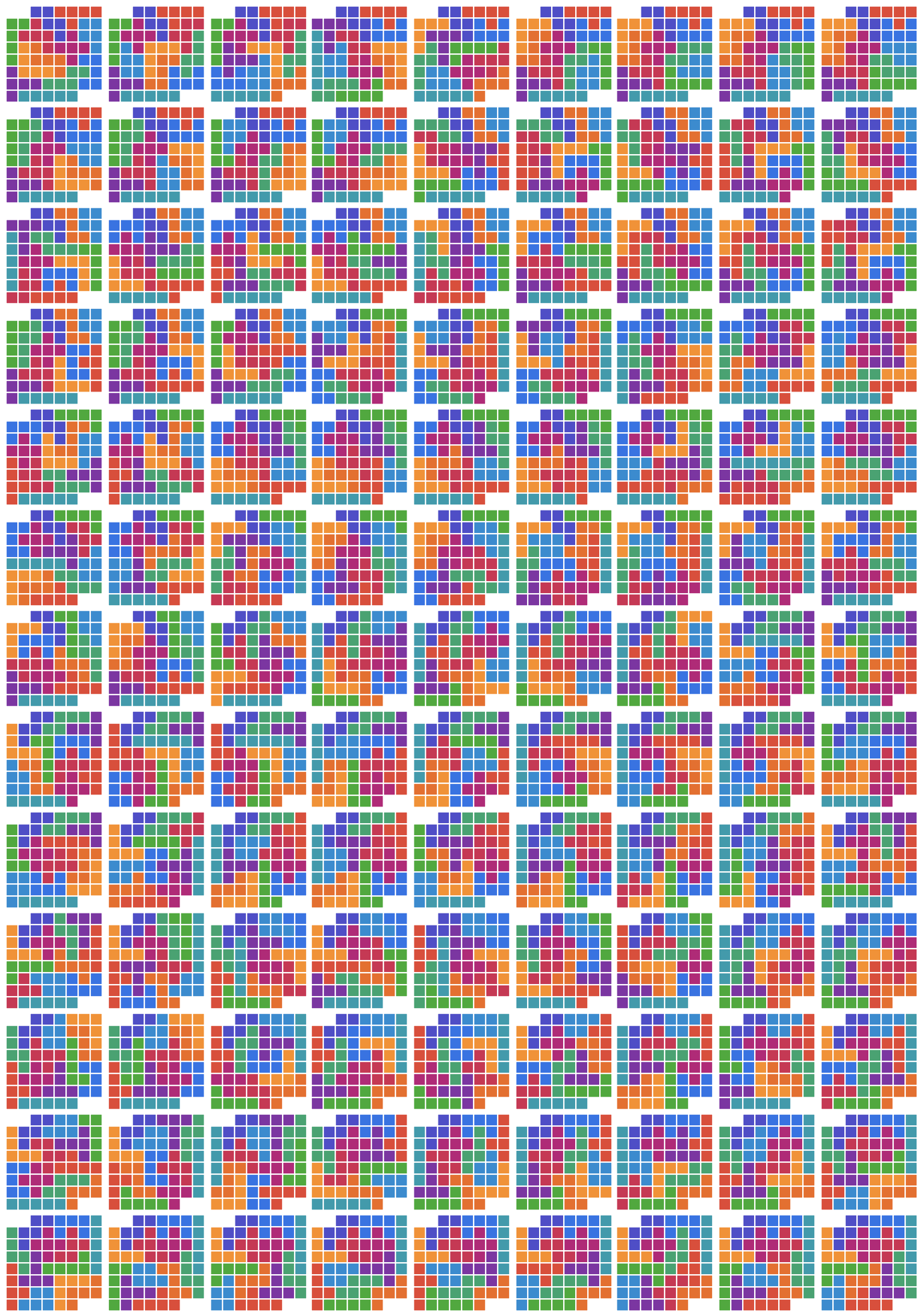


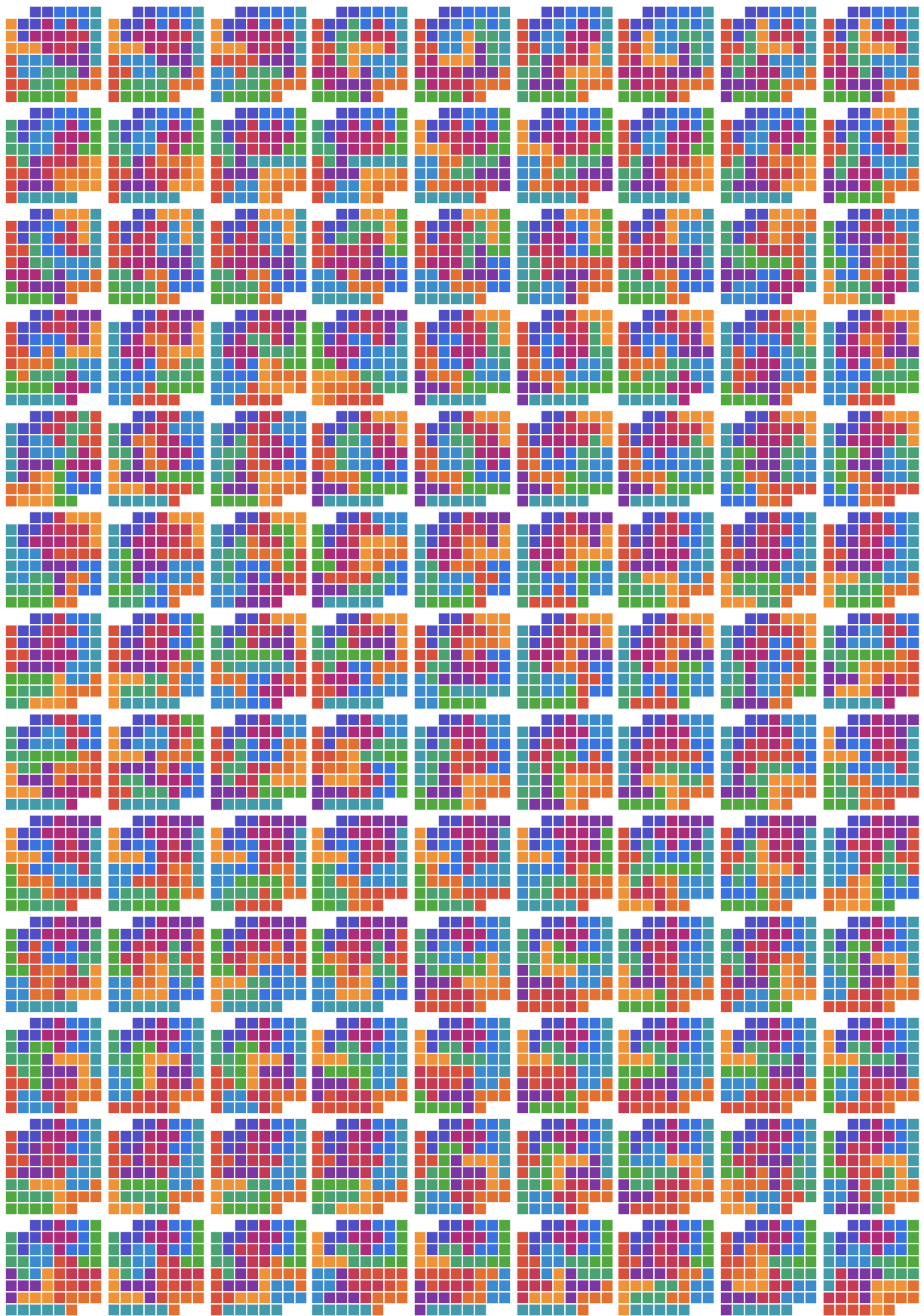


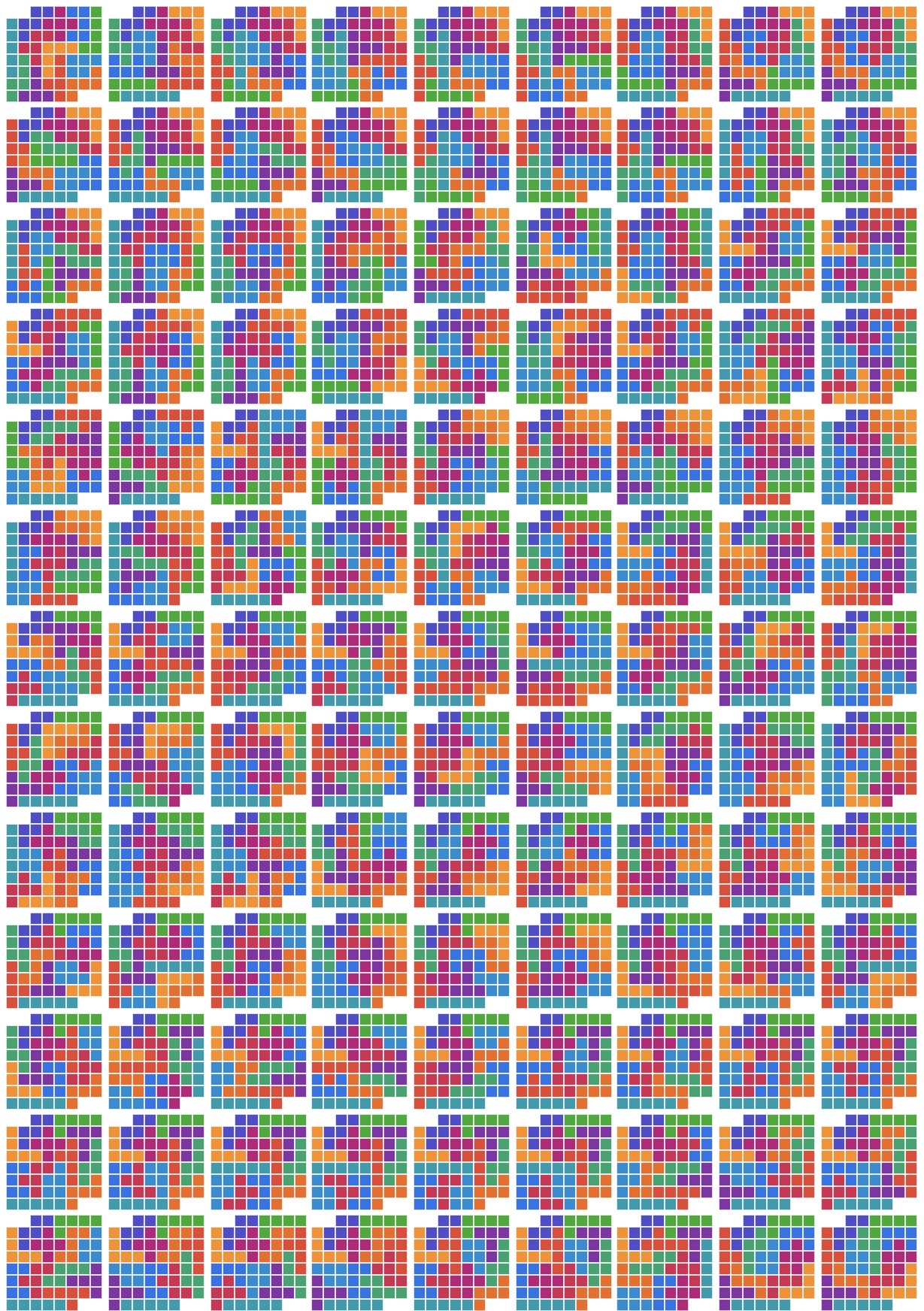


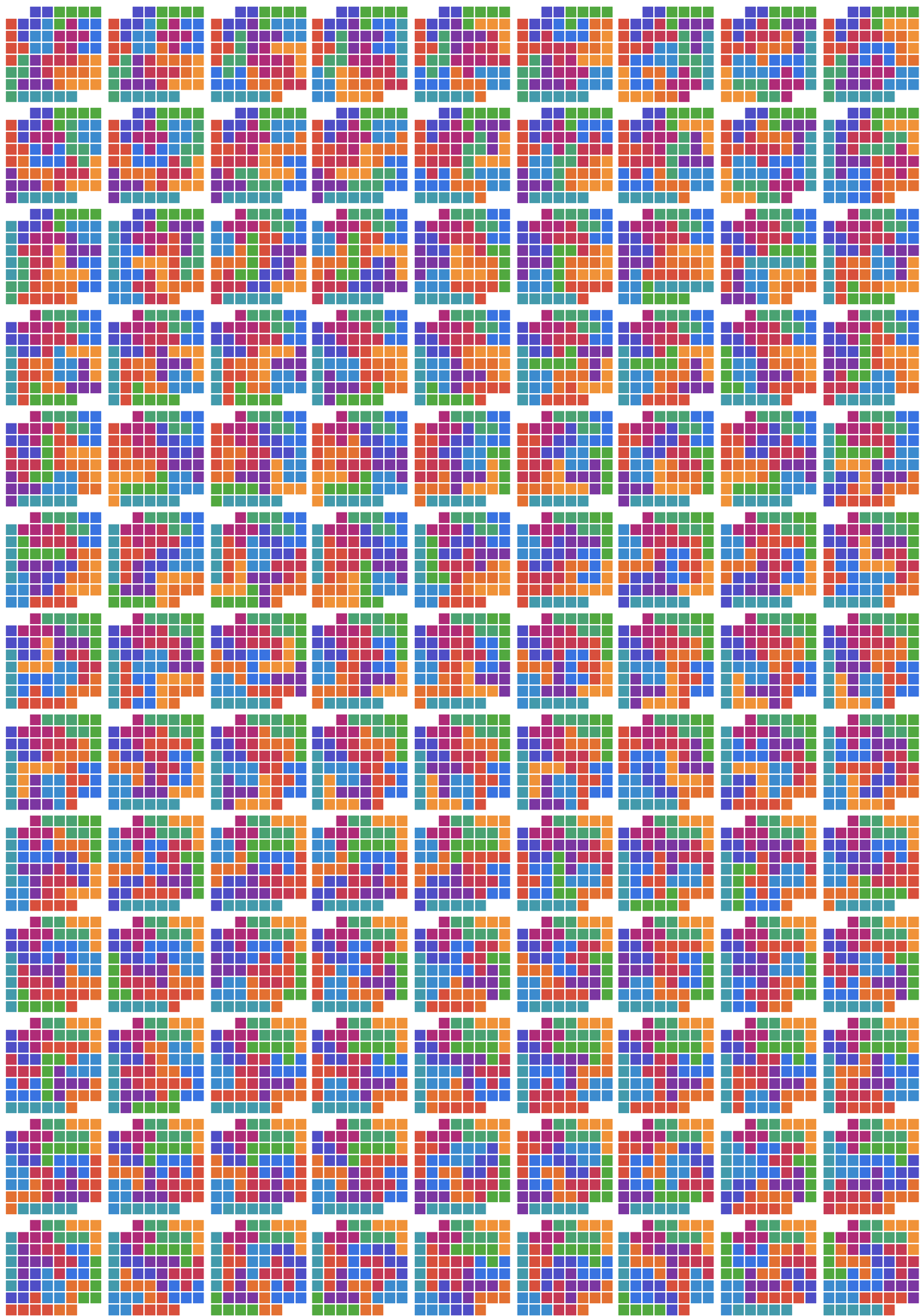


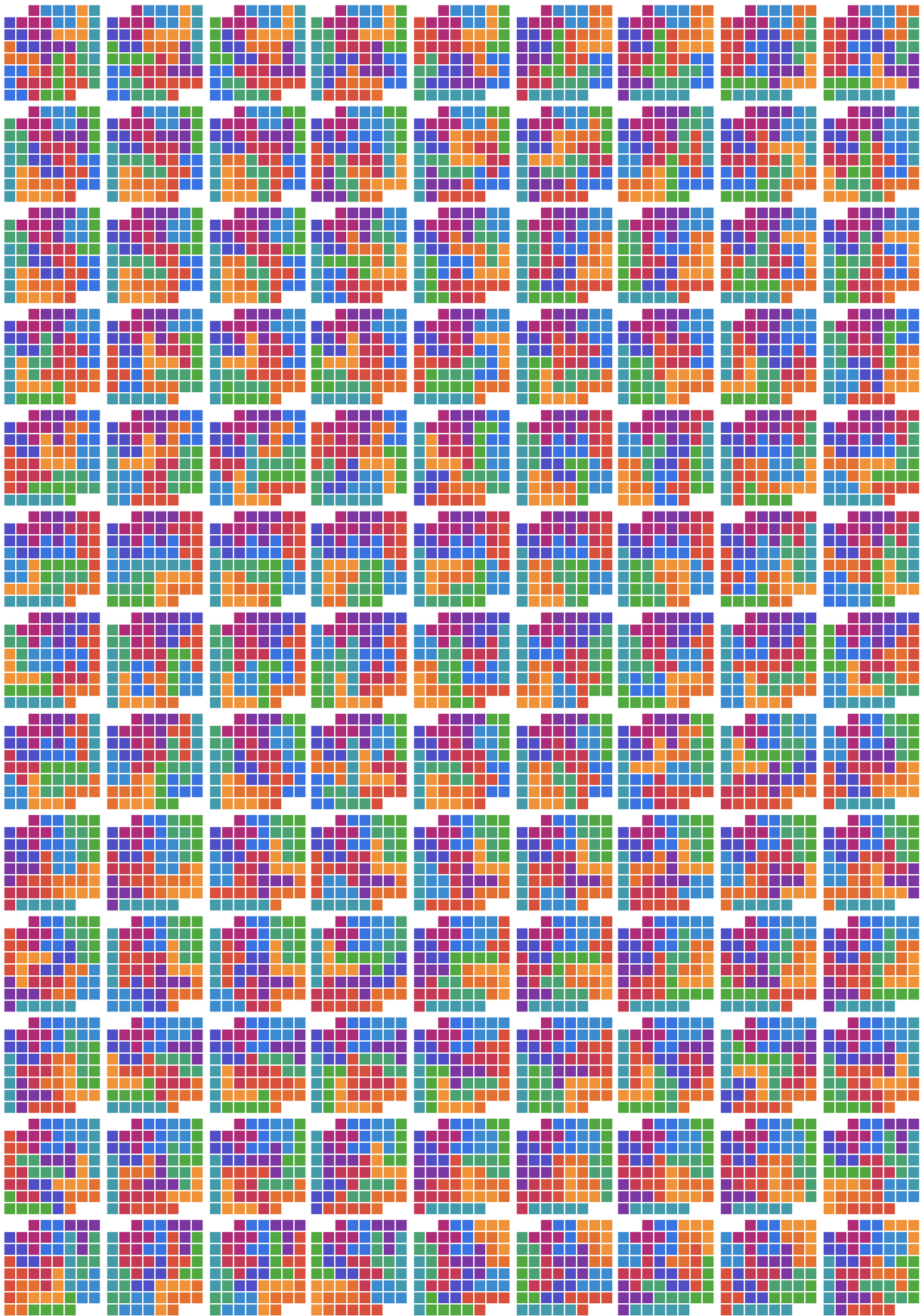


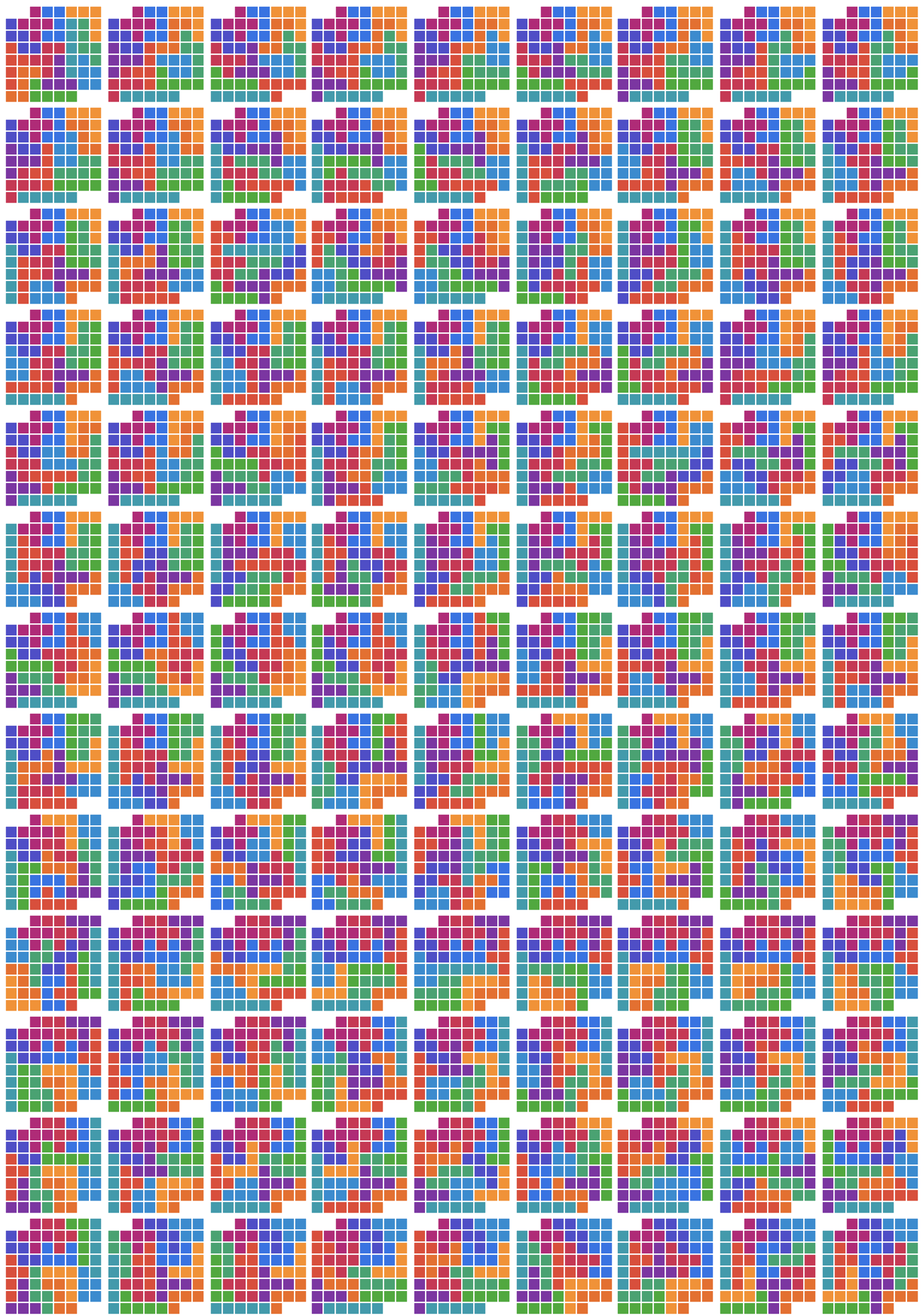


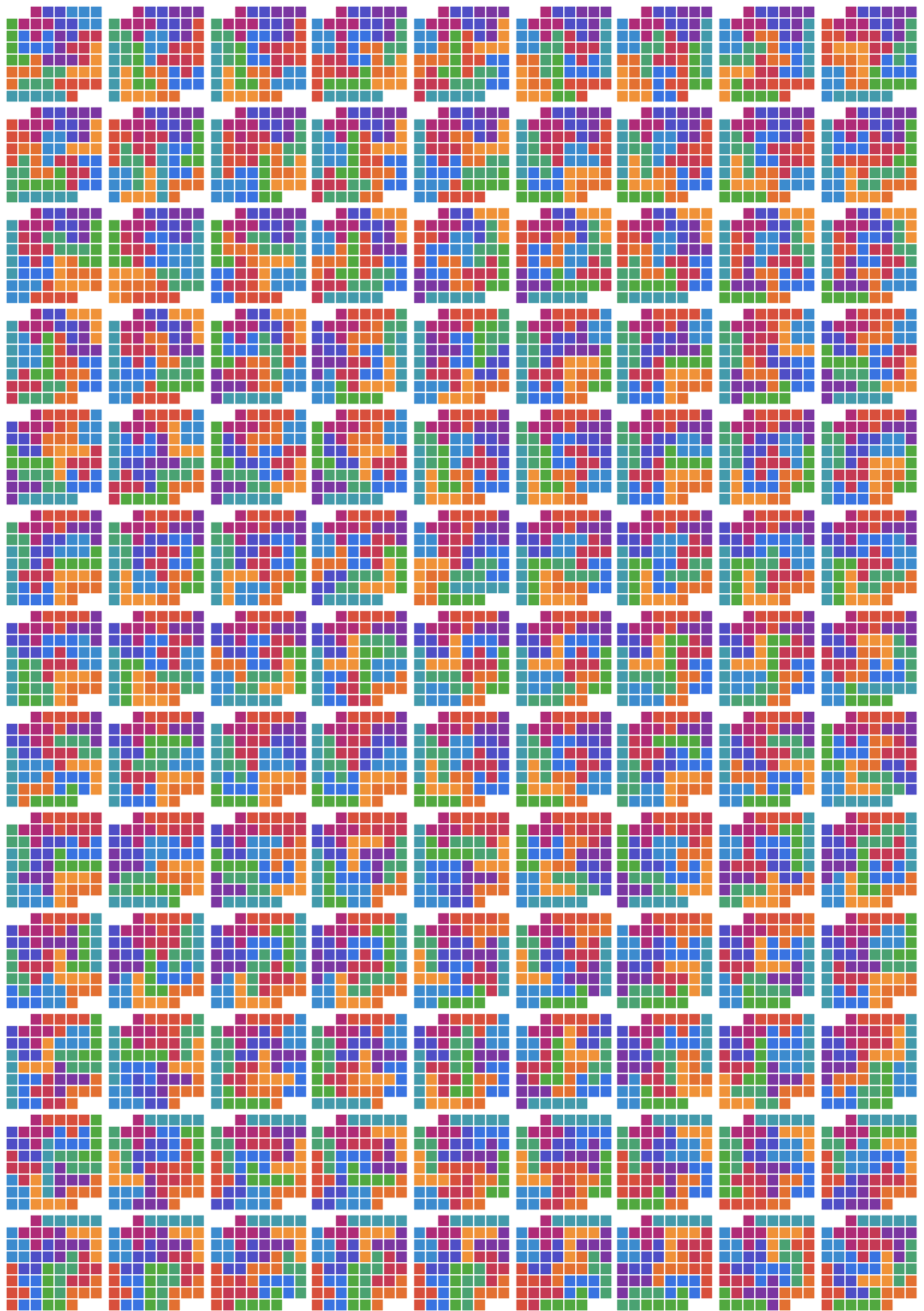


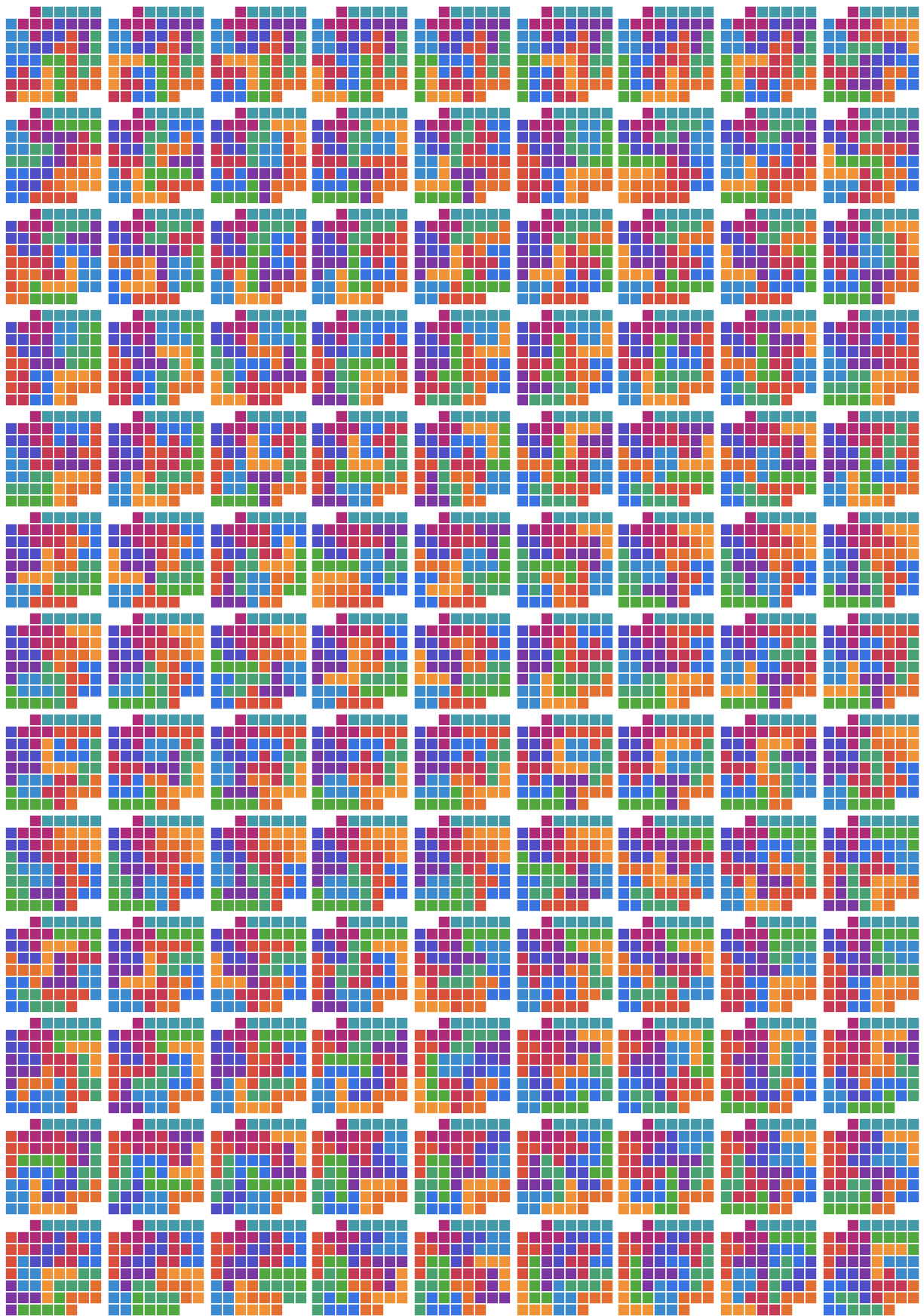


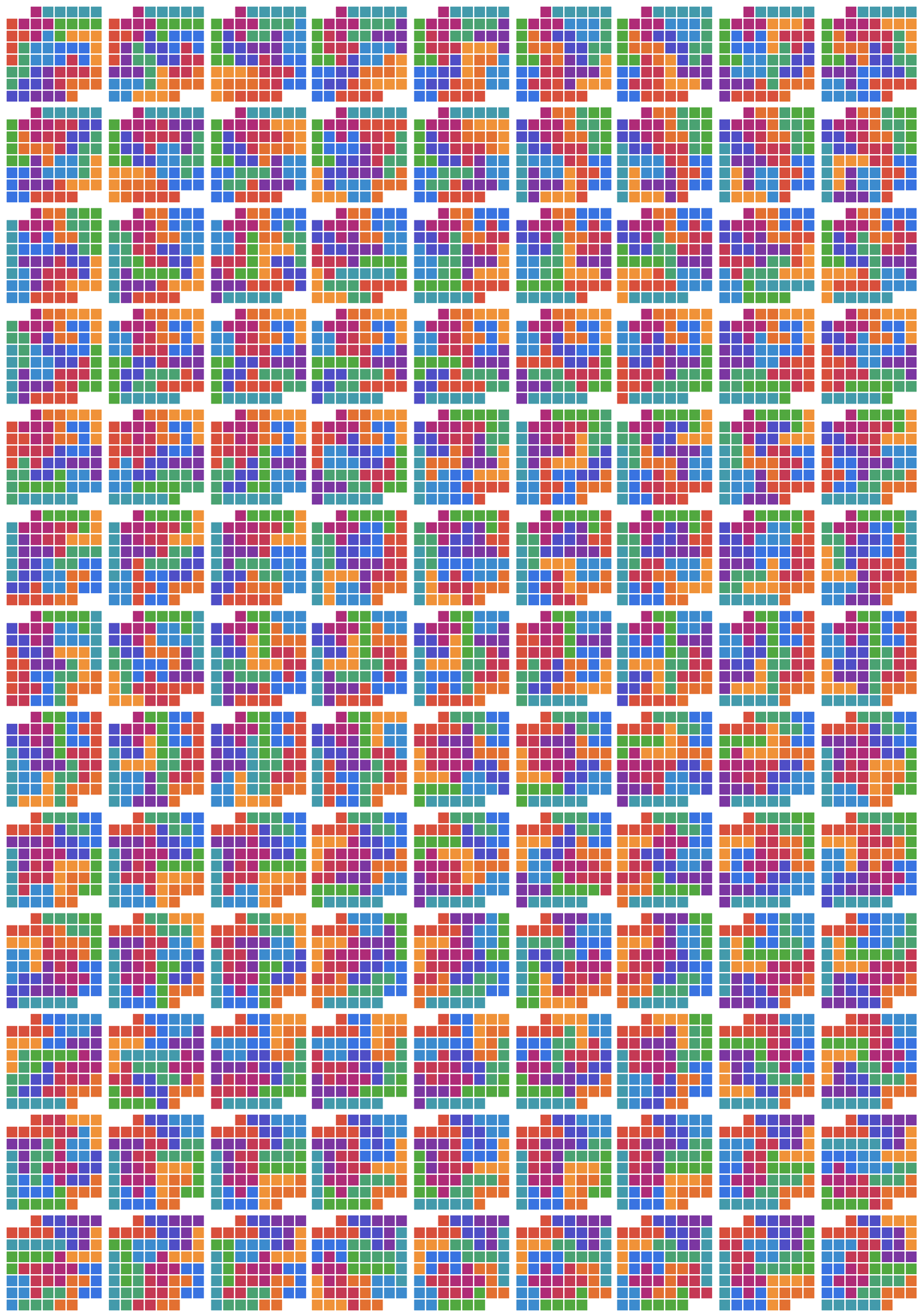


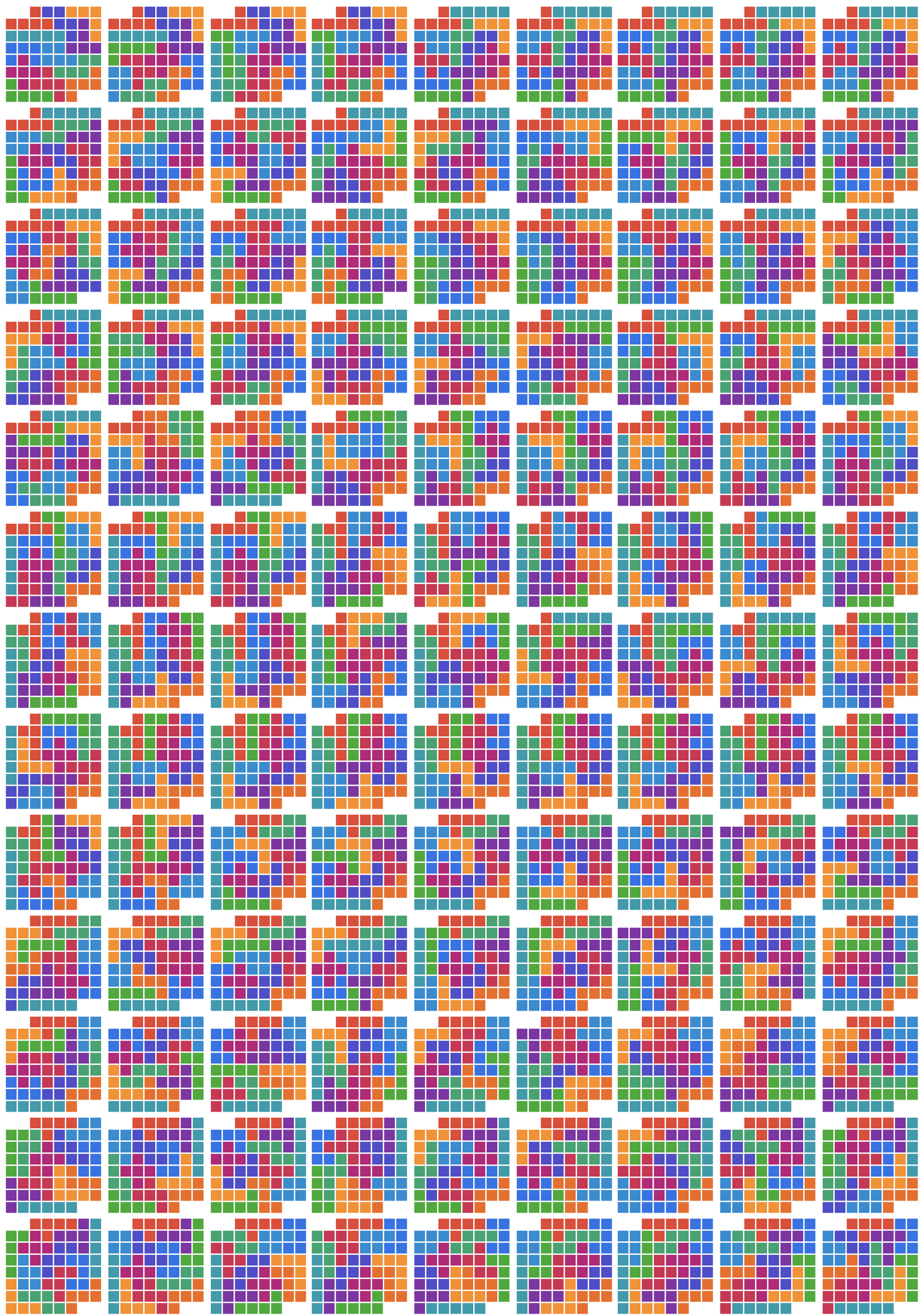


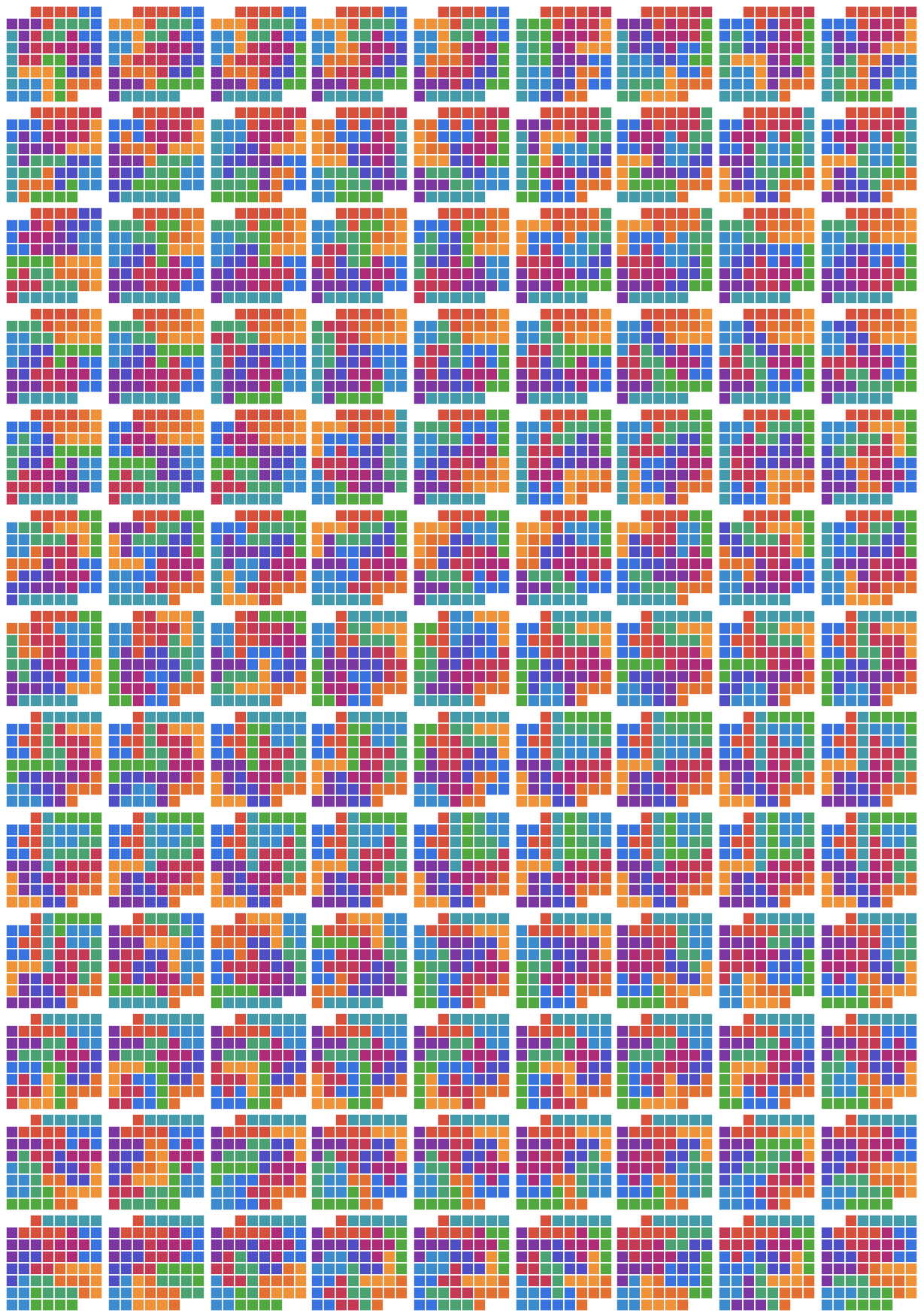


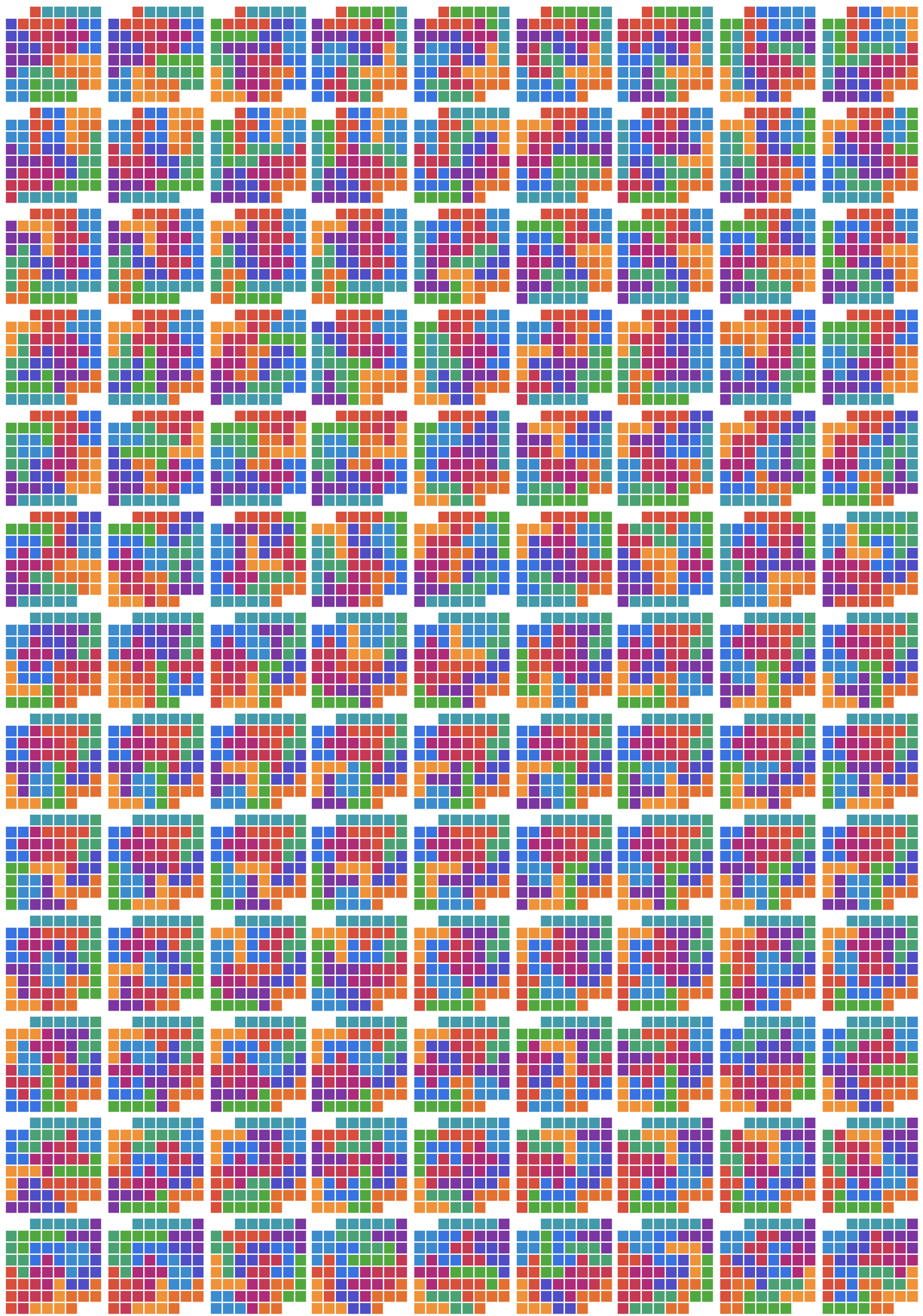


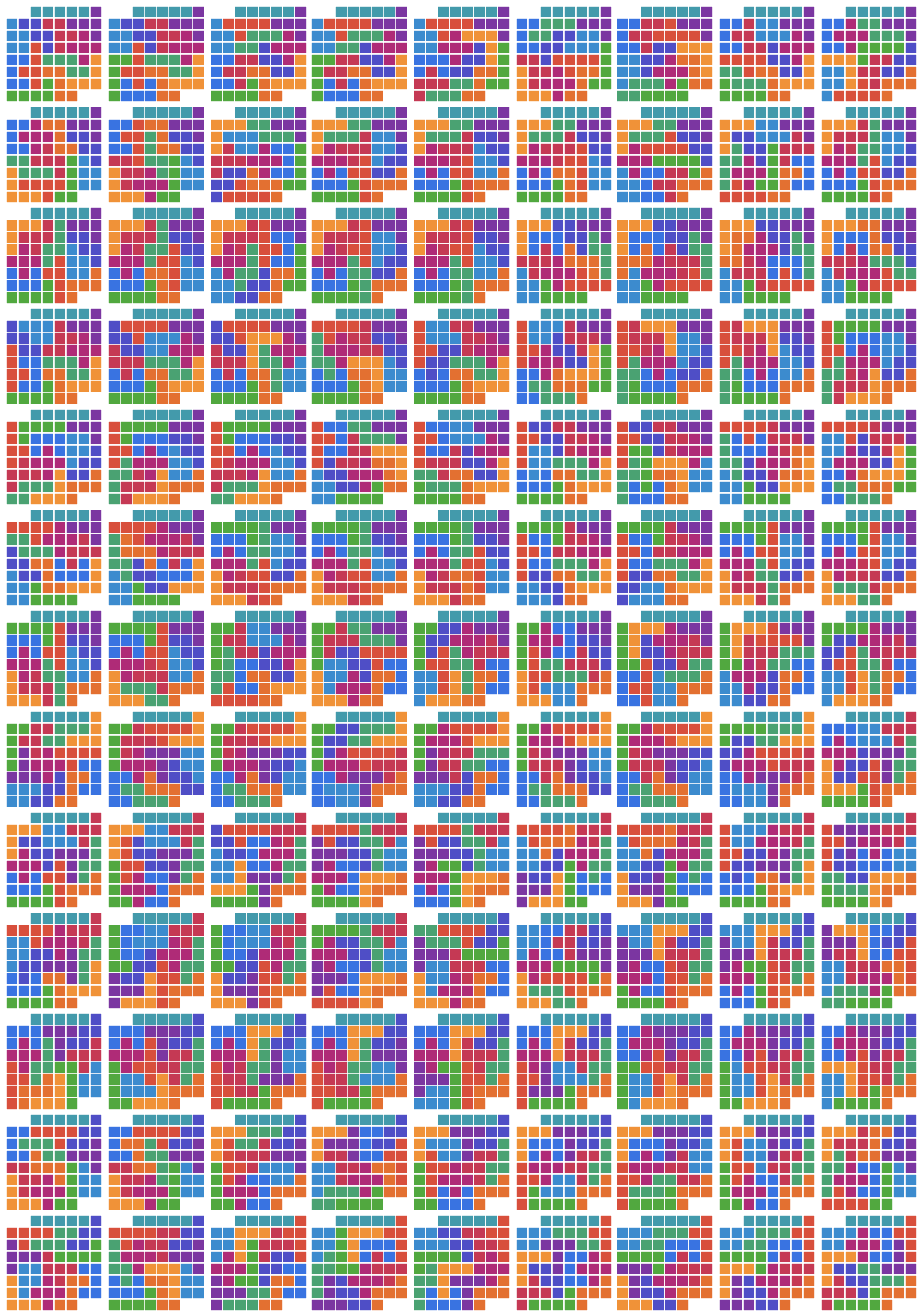


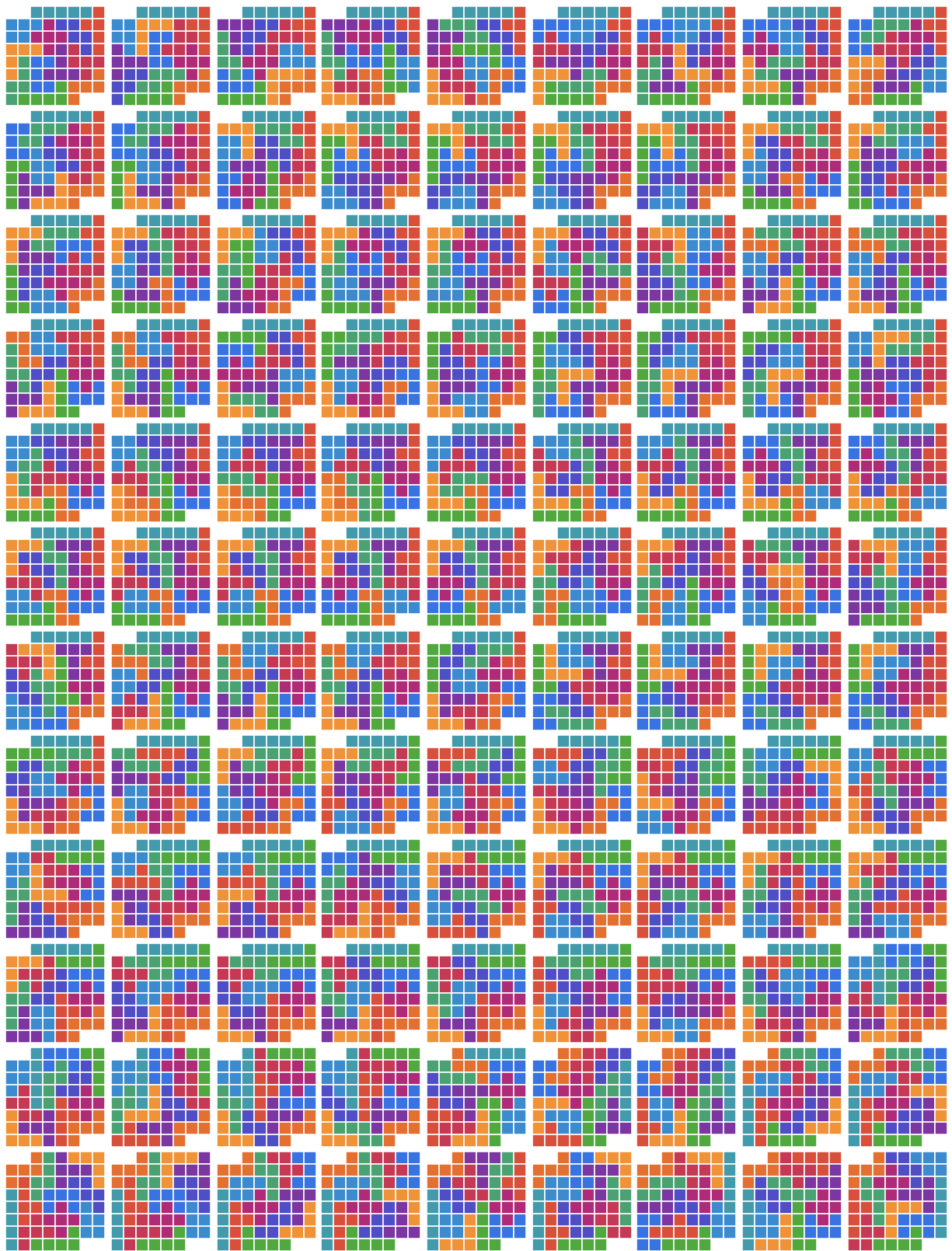


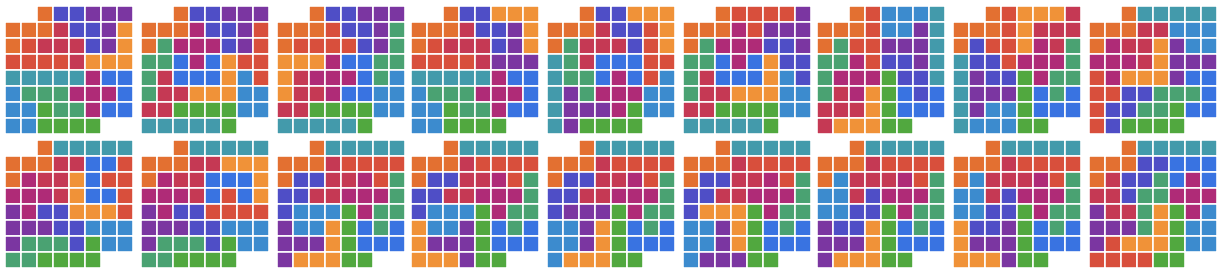


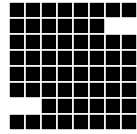




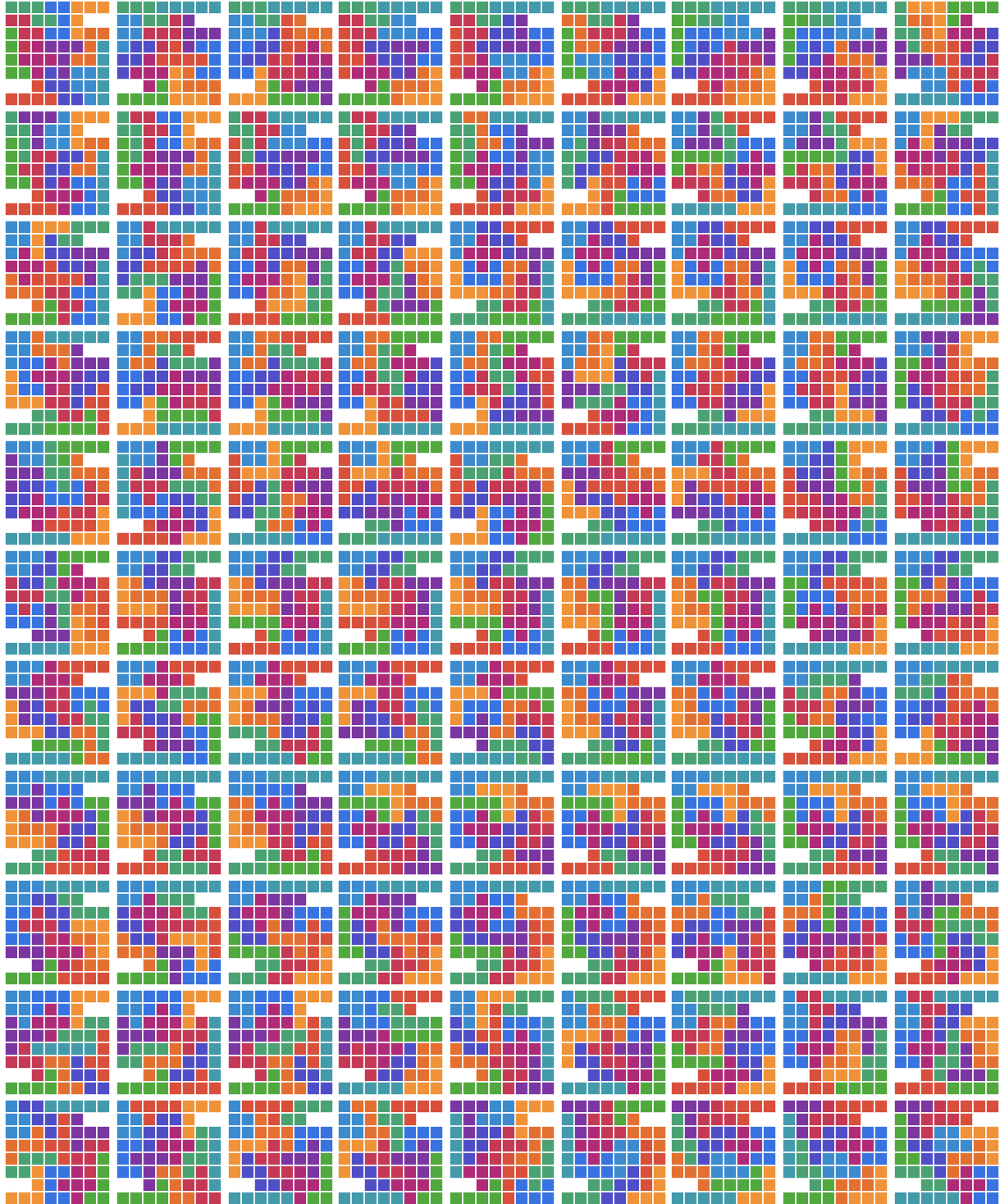


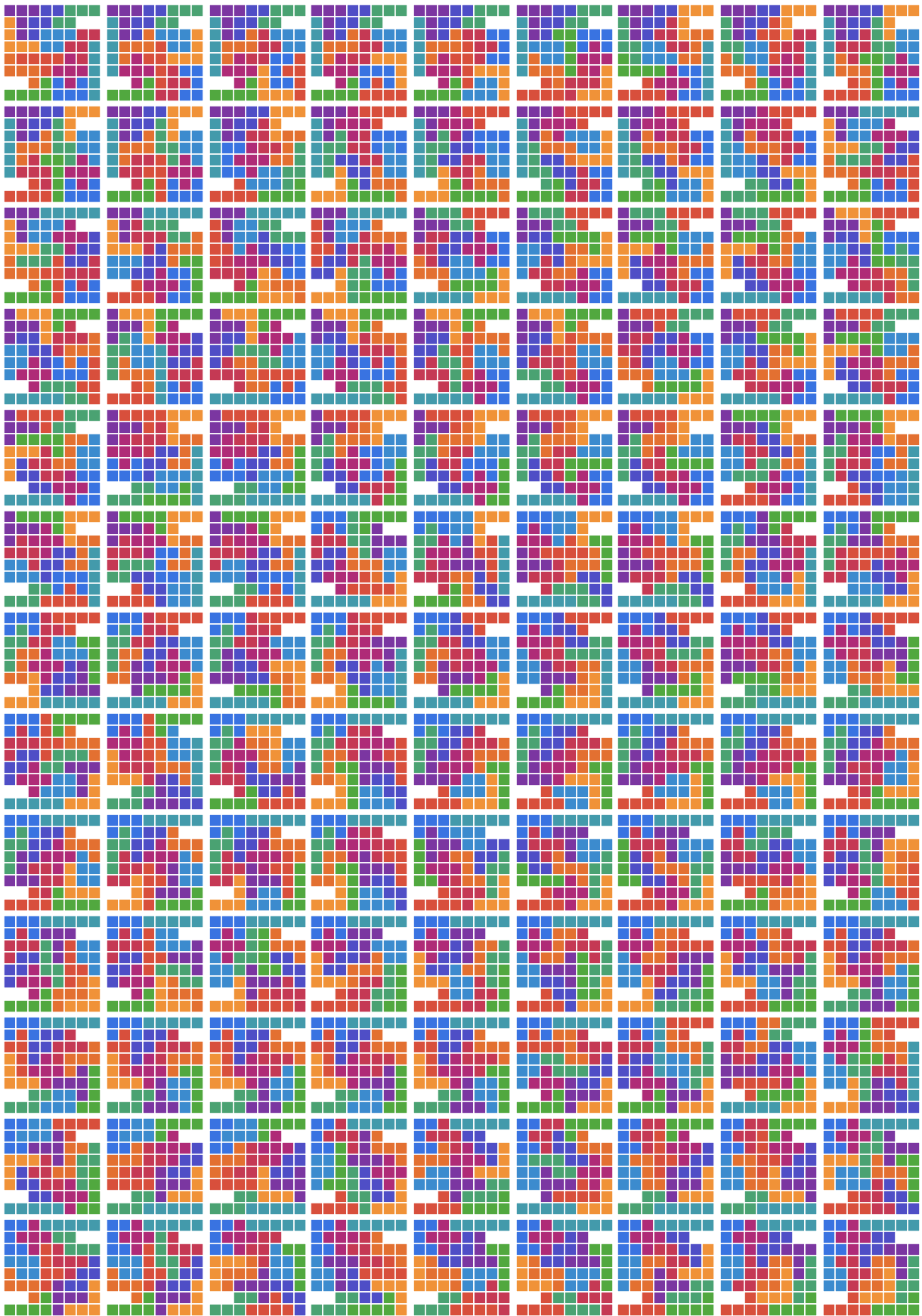


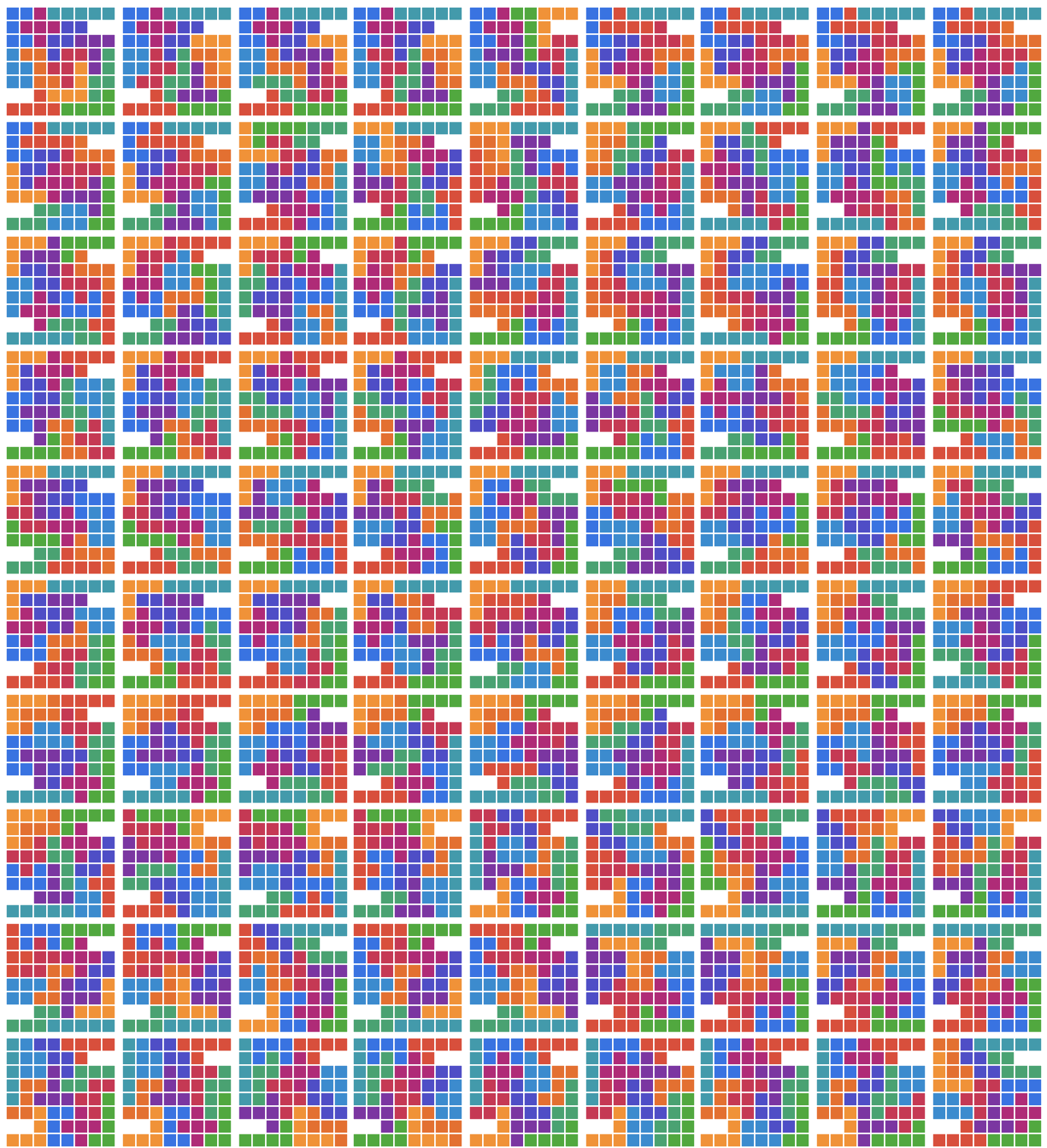


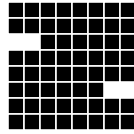


notch4
306 Solutions

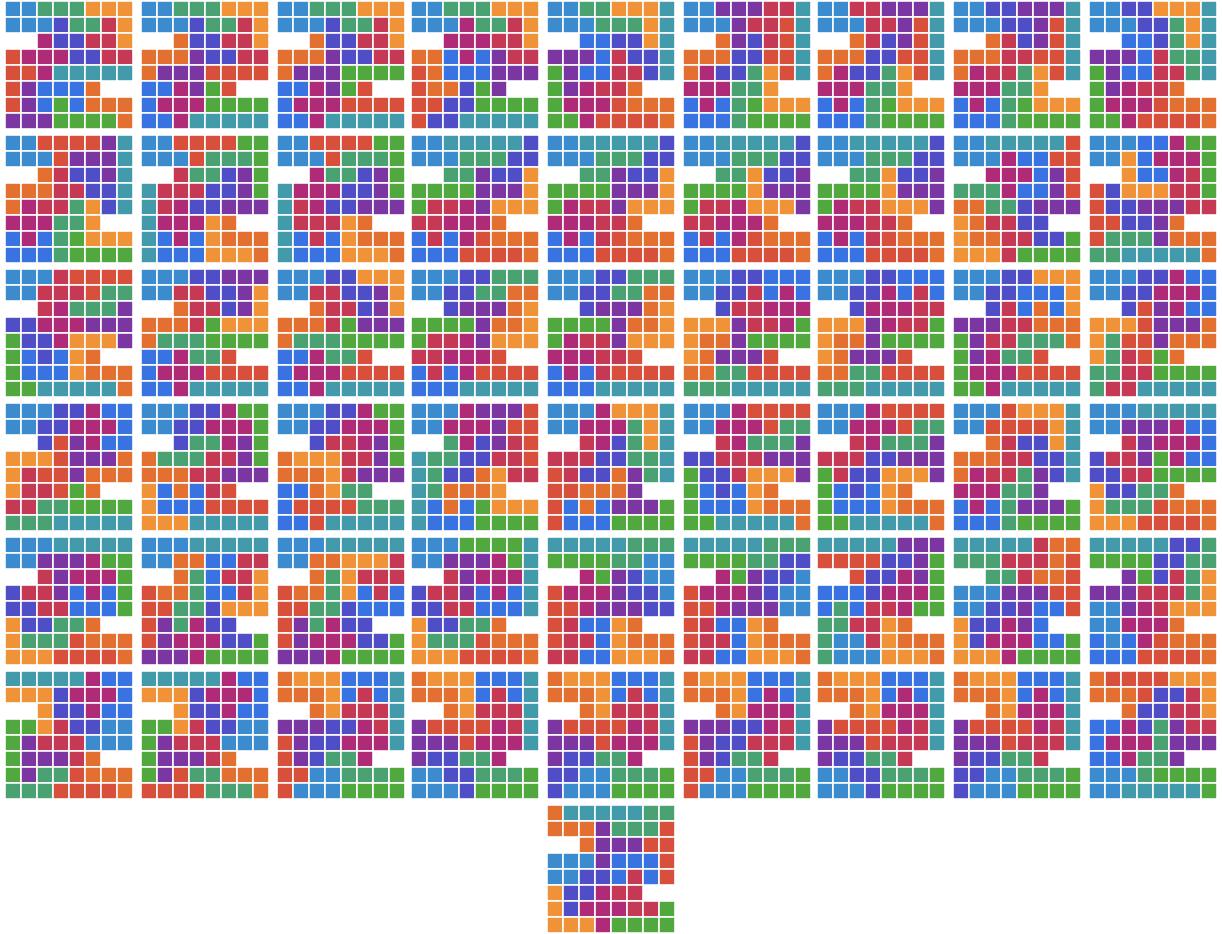


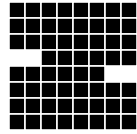




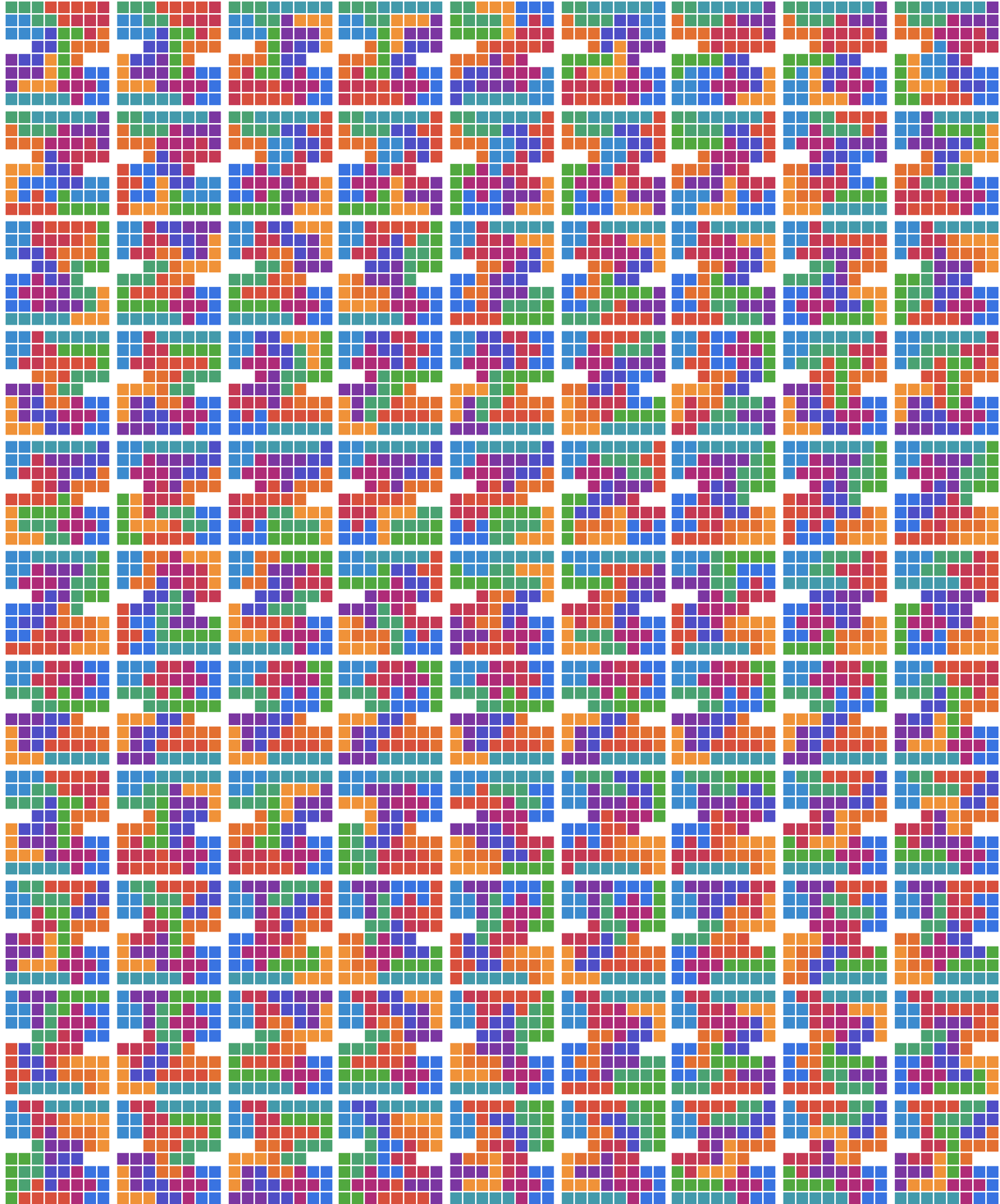


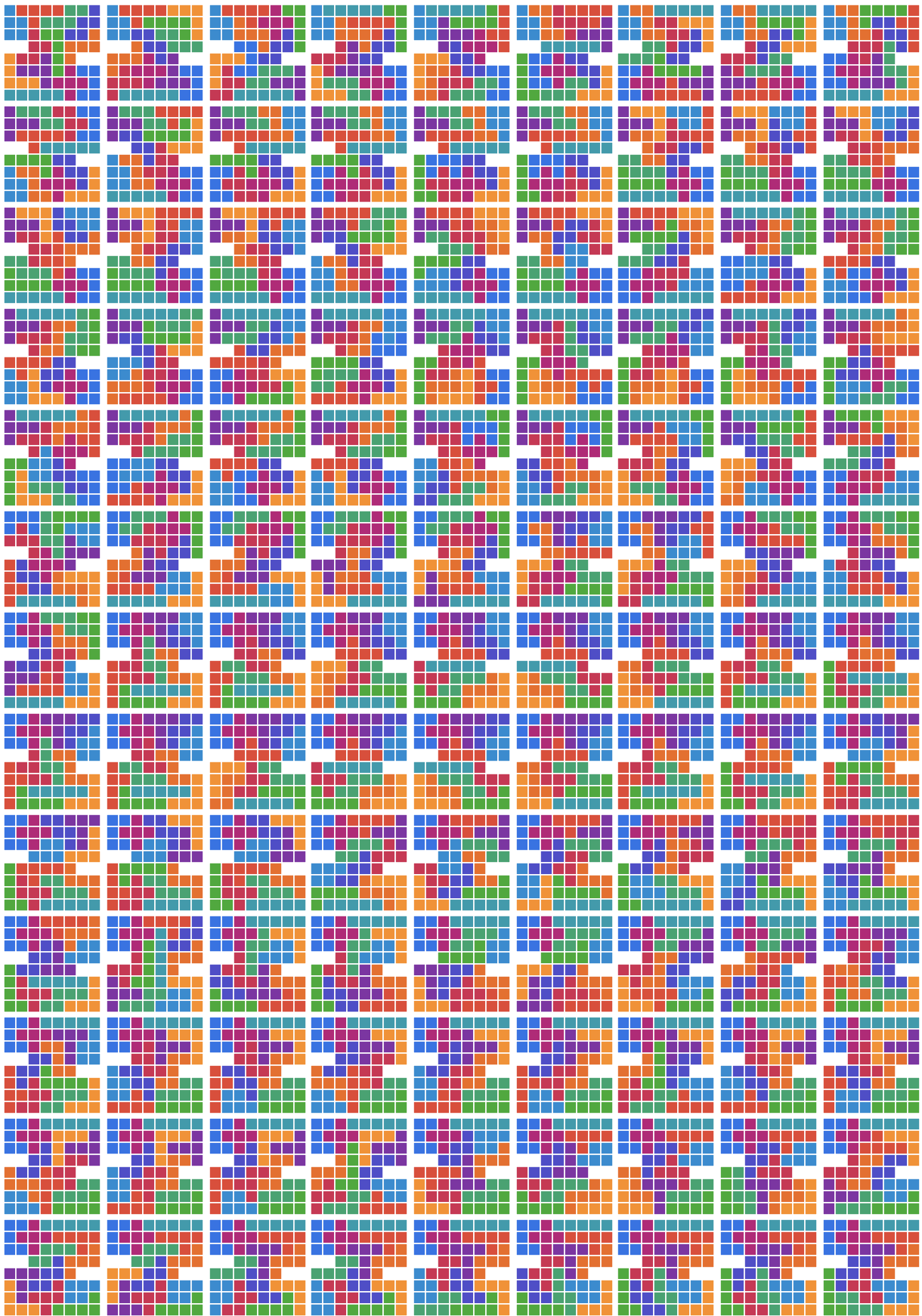
notch5
55 Solutions

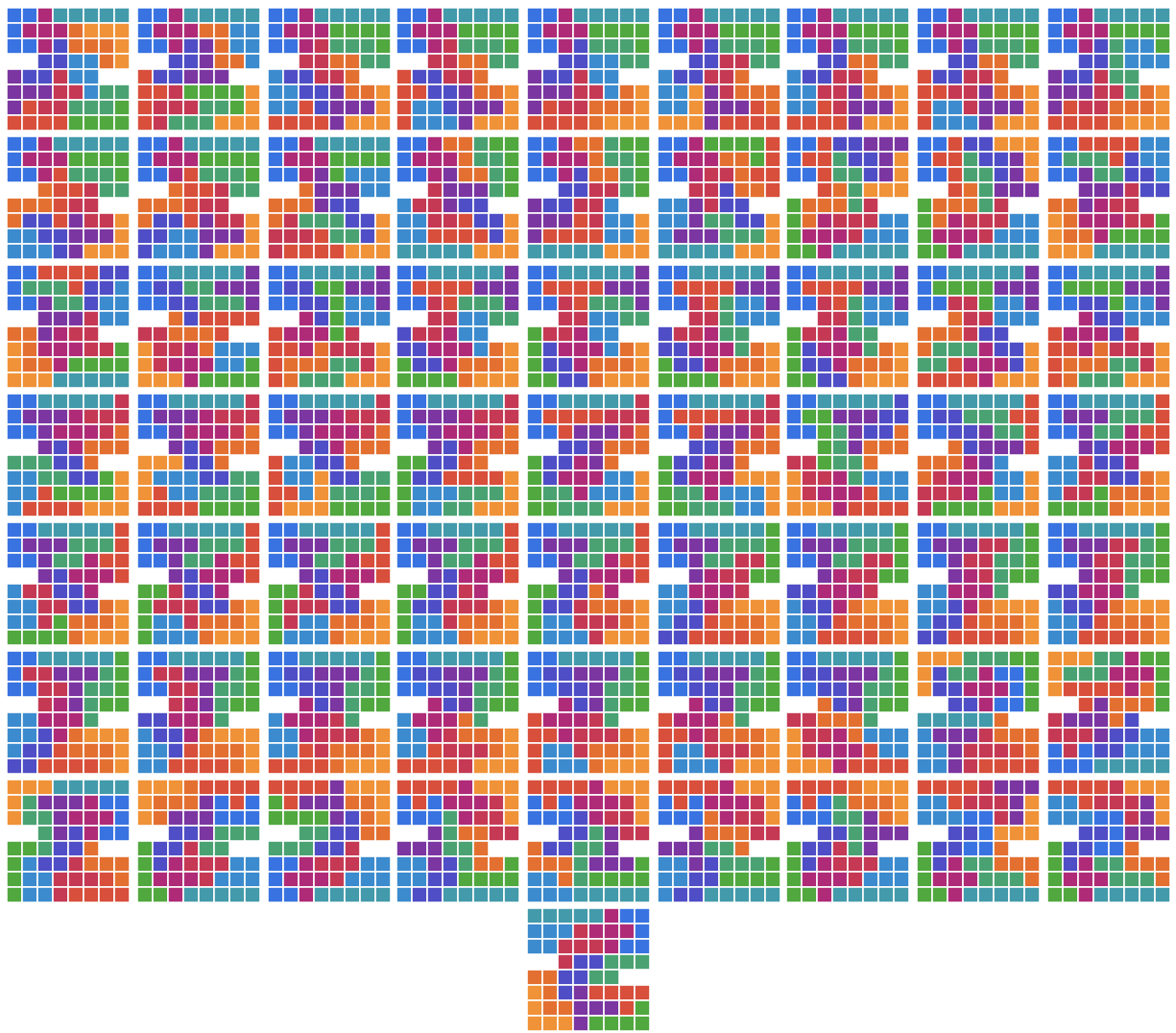


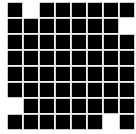


notch6
280 Solutions



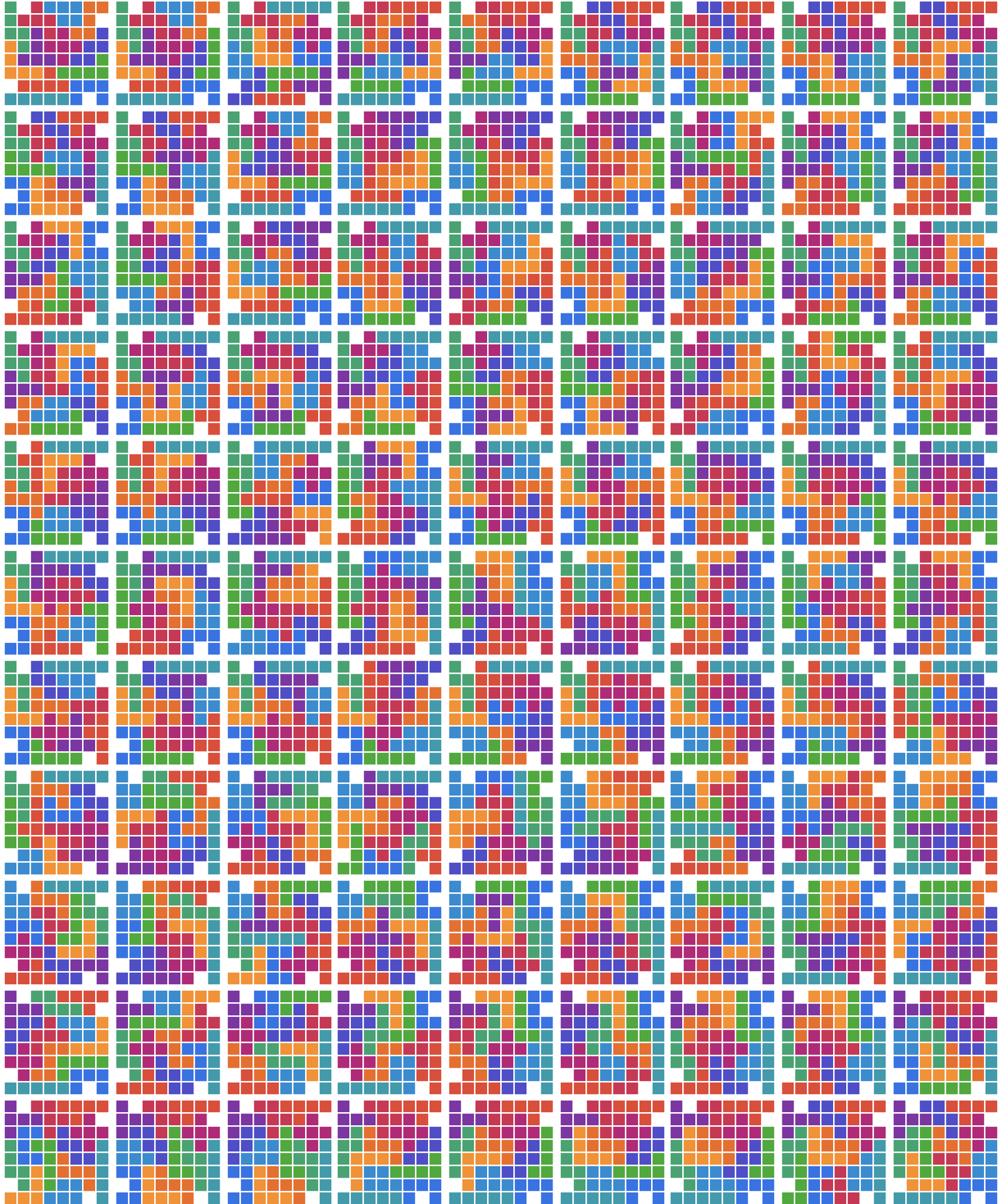


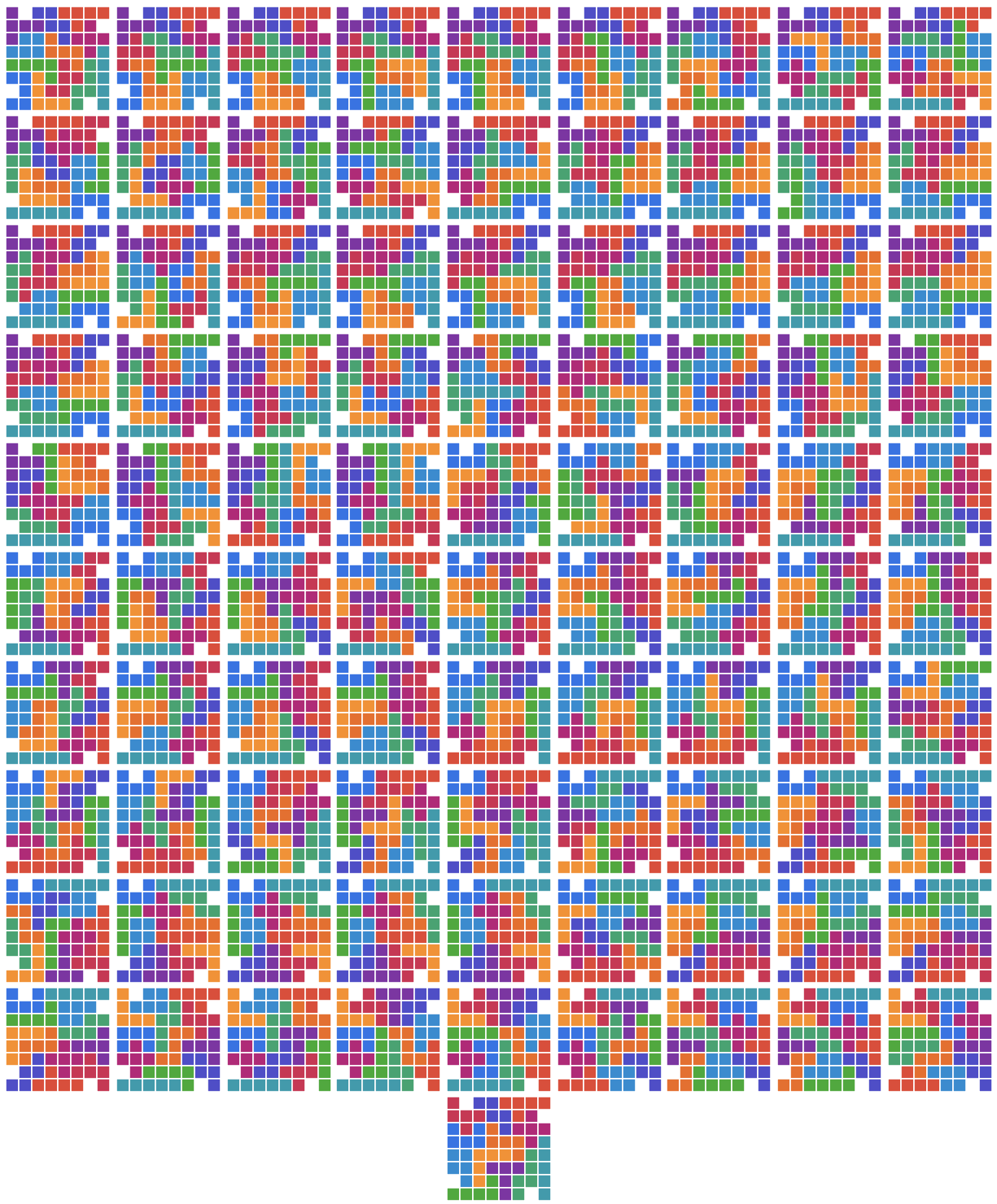


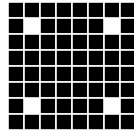


pinwheel1

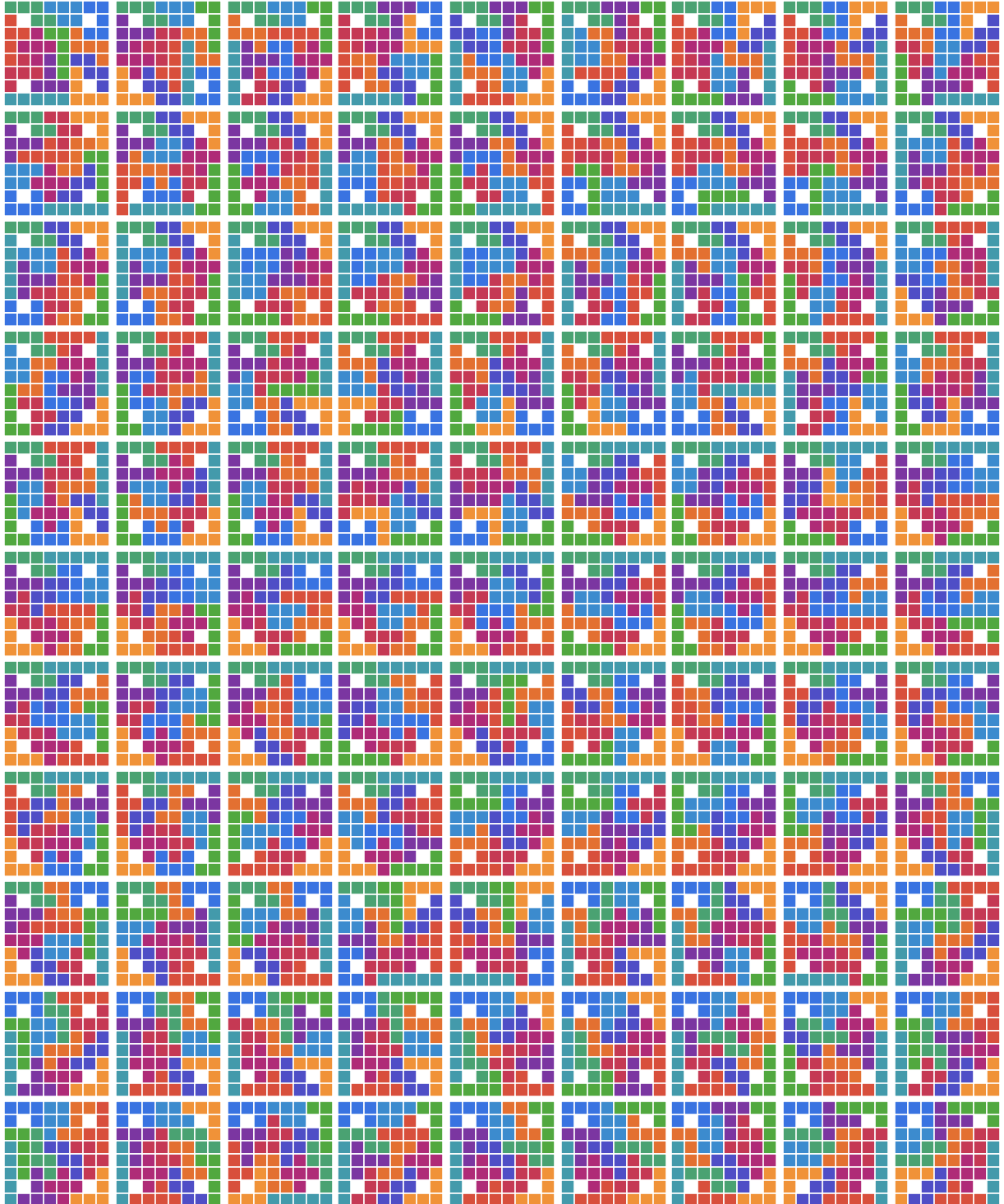
190 Solutions

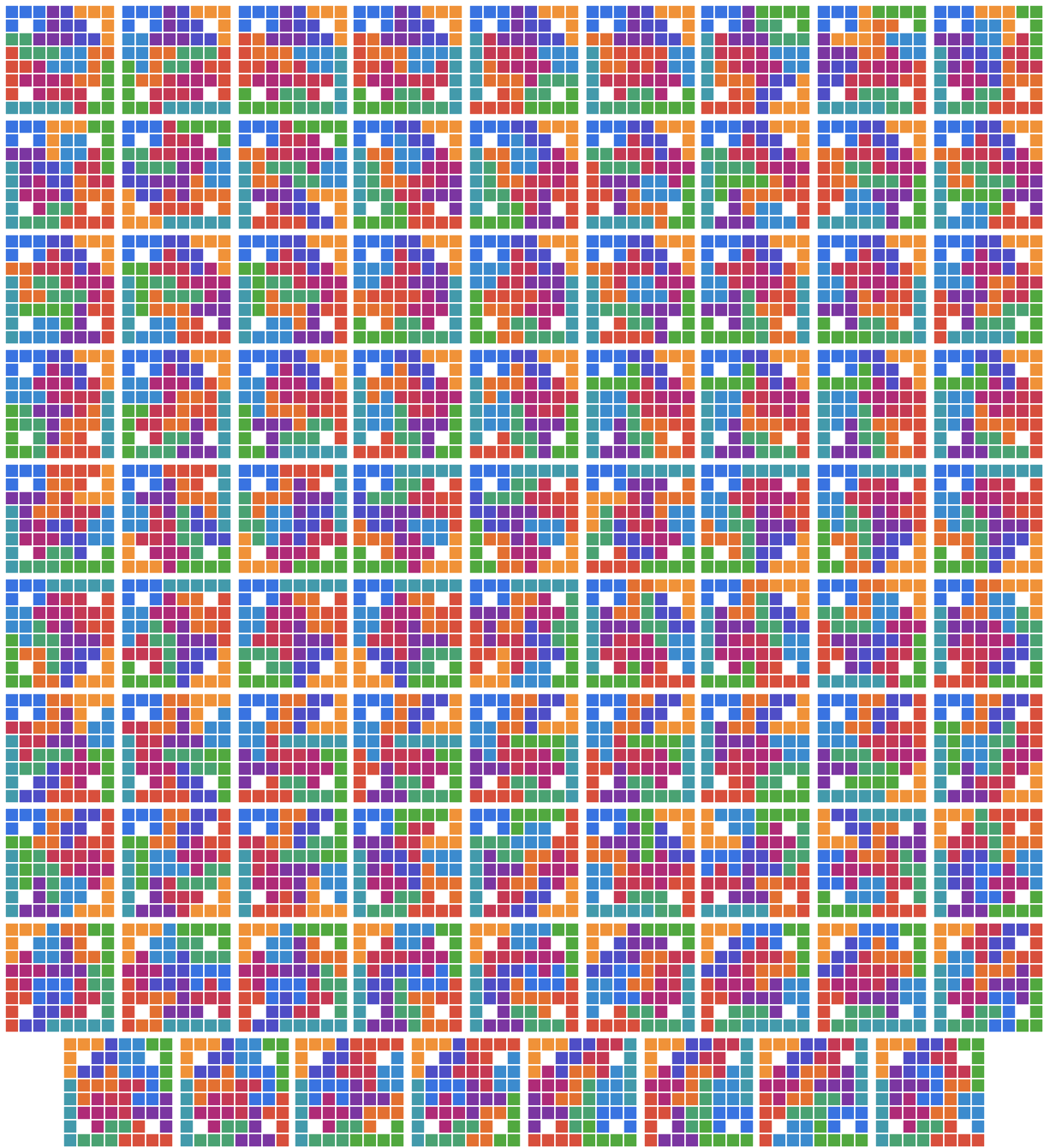


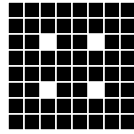




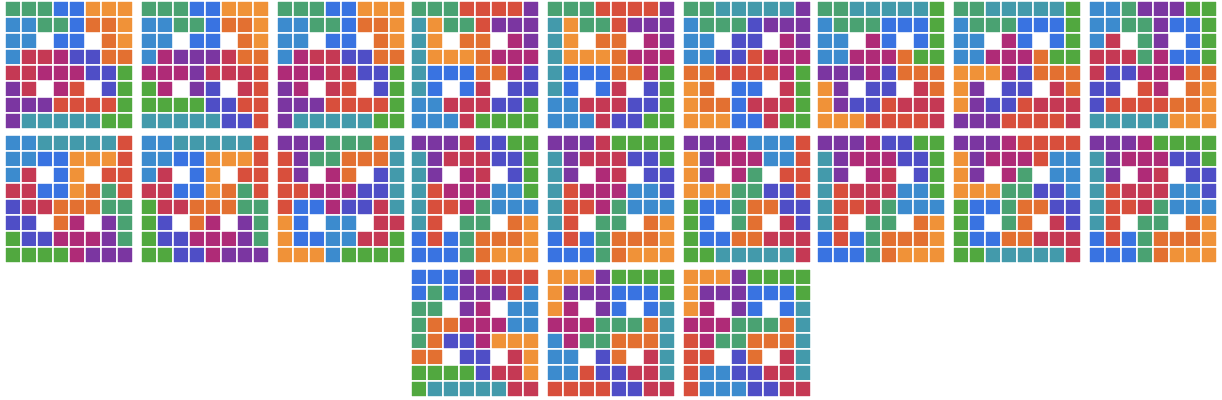
inset1
188 Solutions

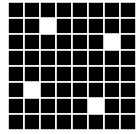






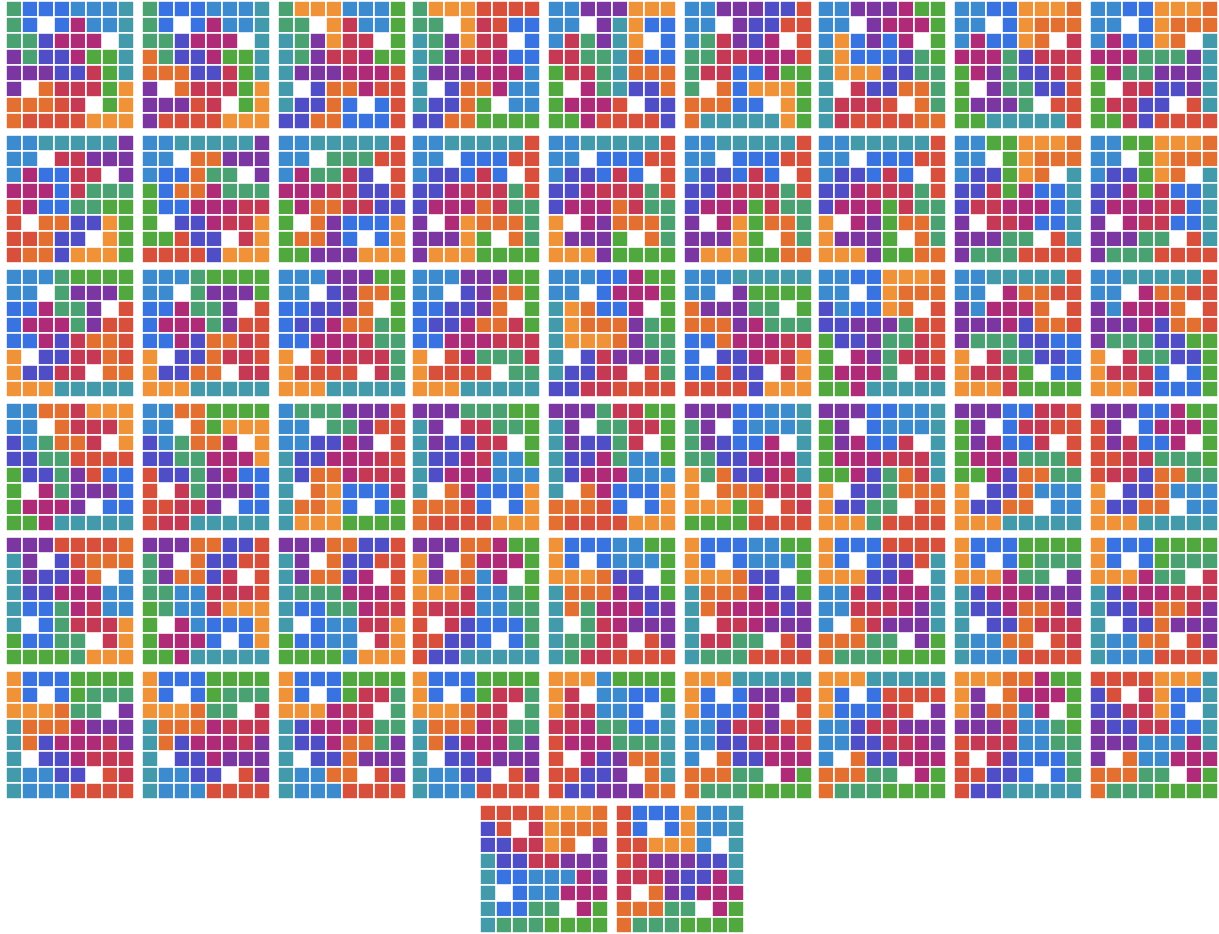
inset2
21 Solutions

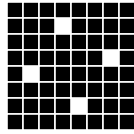




offset1

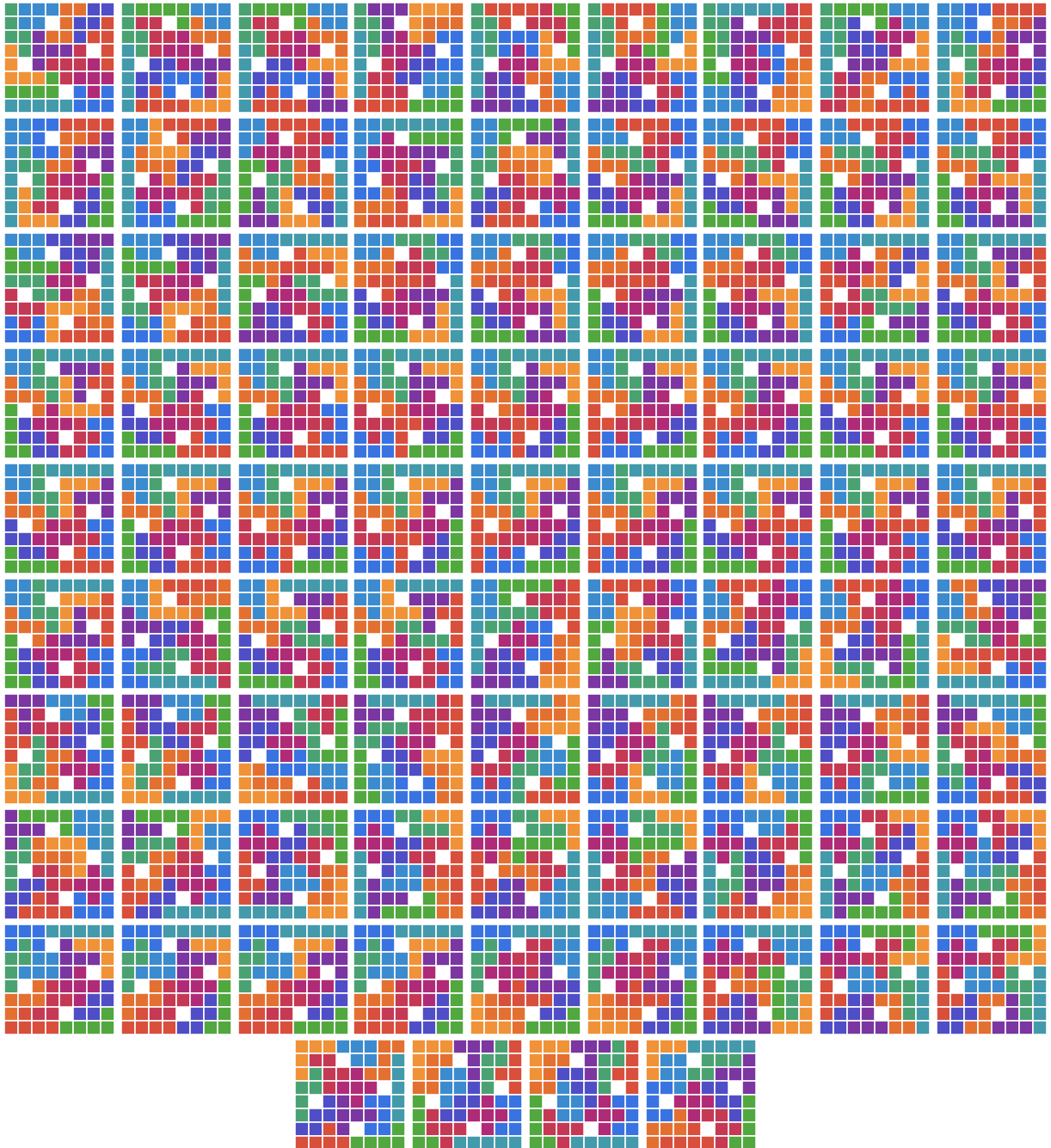
56 Solutions

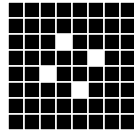




offset2

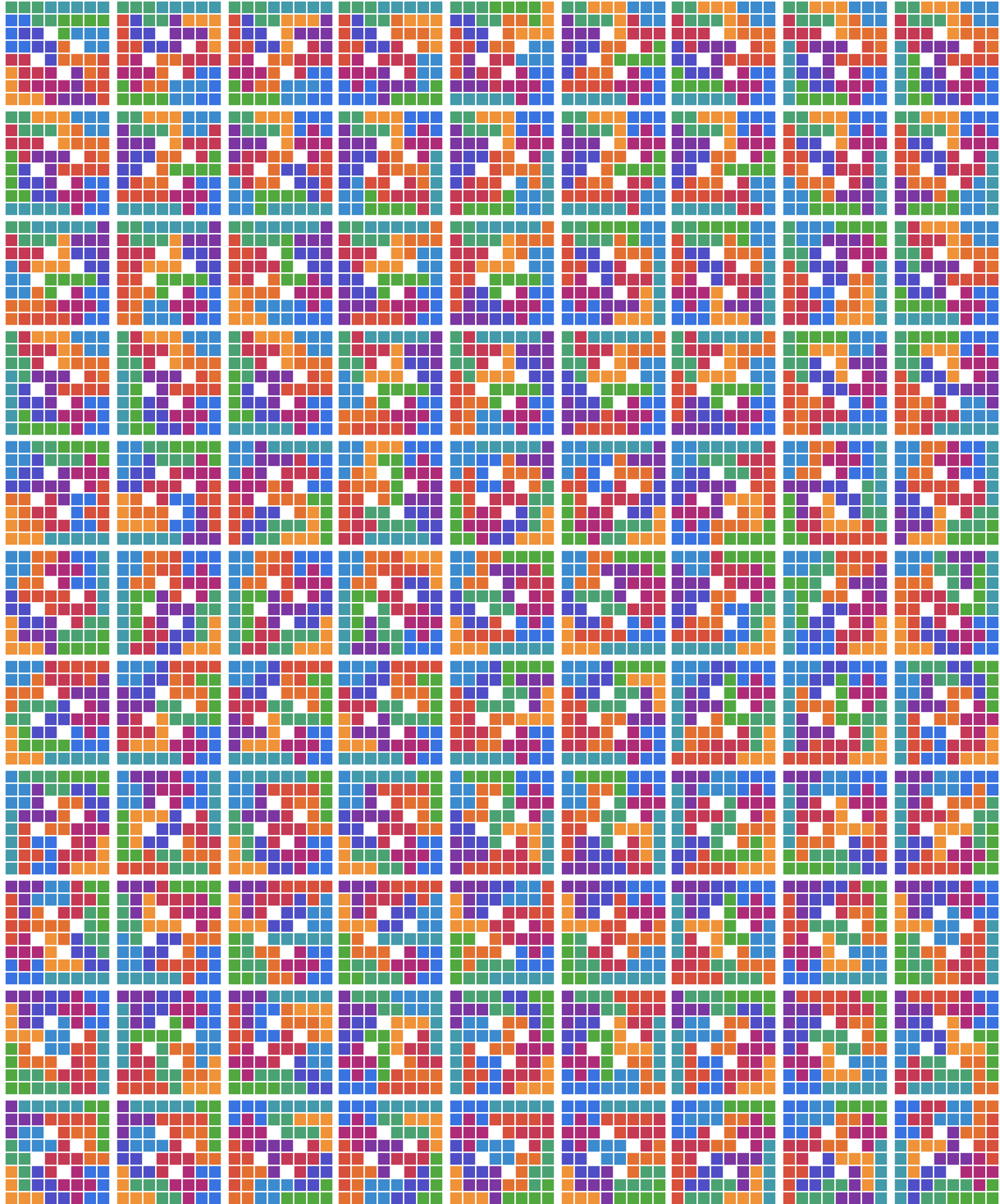
85 Solutions

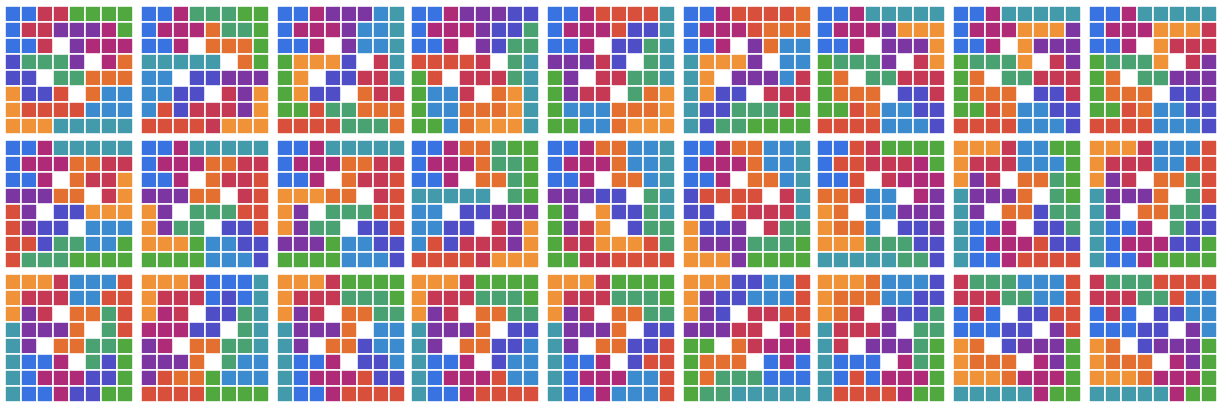


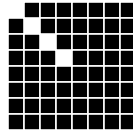


offset3

126 Solutions



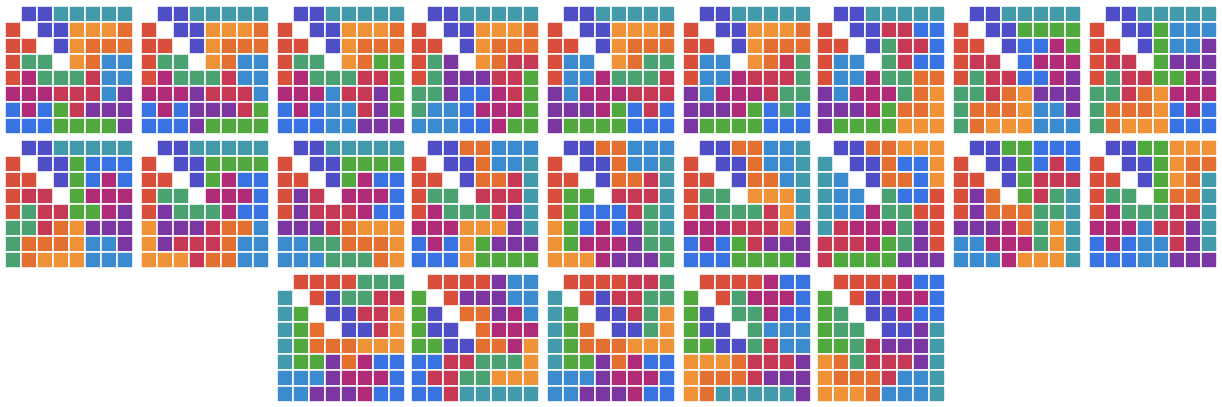


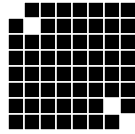


slash1

122 Solutions

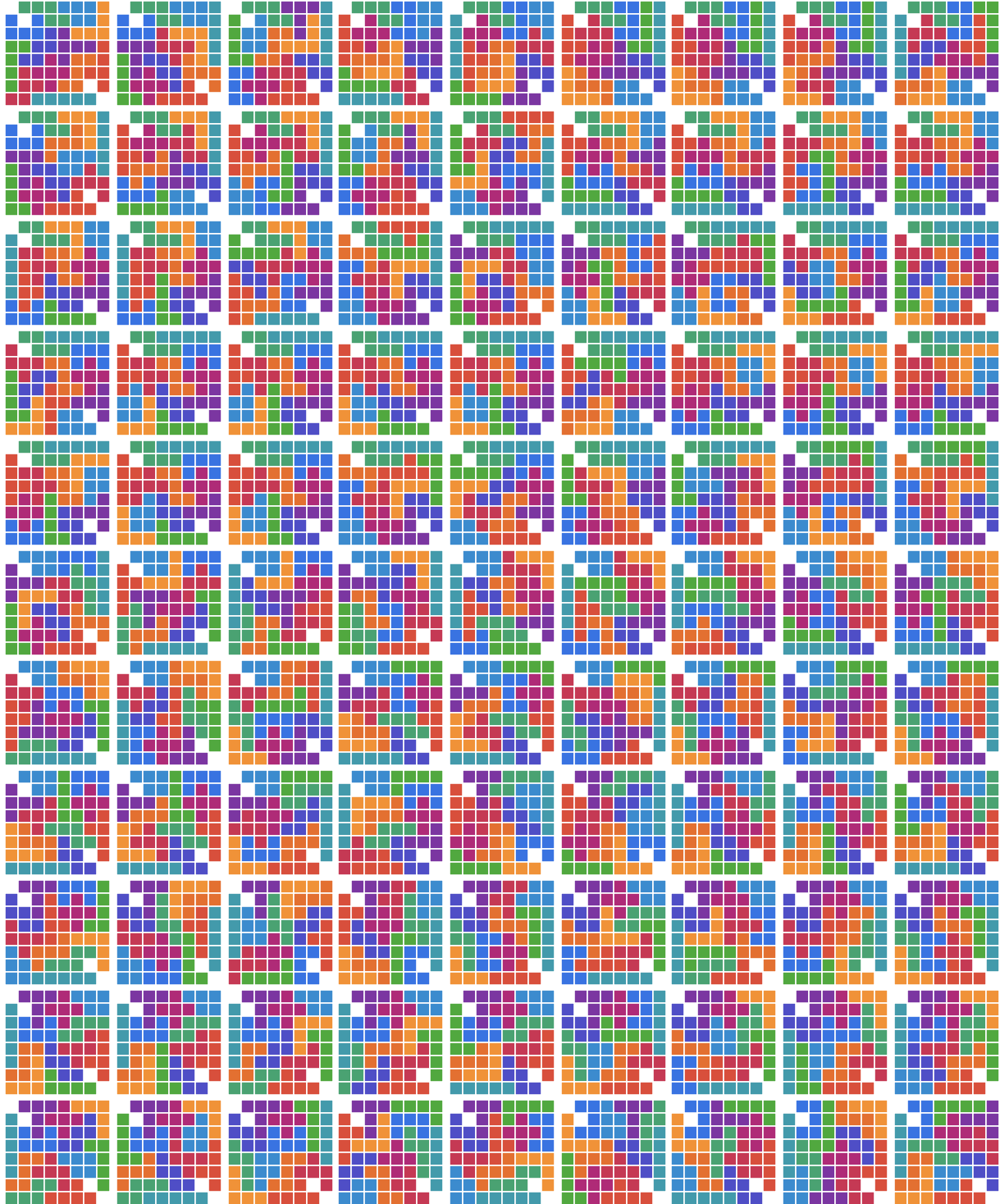


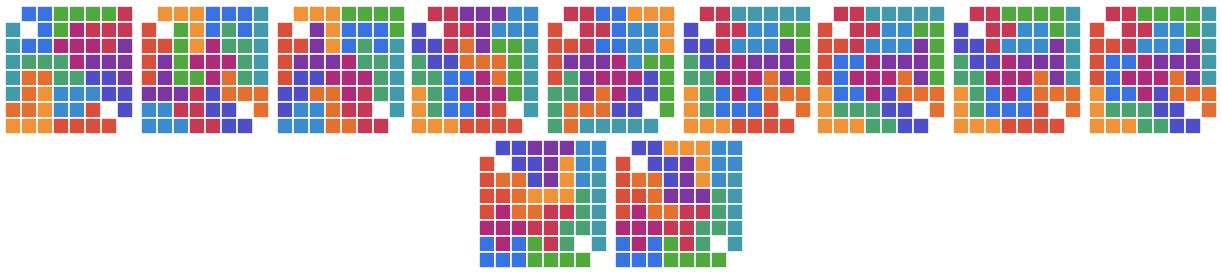




slash2

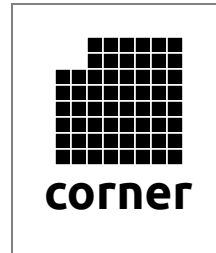
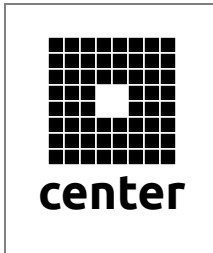
110 Solutions

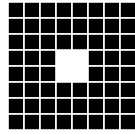




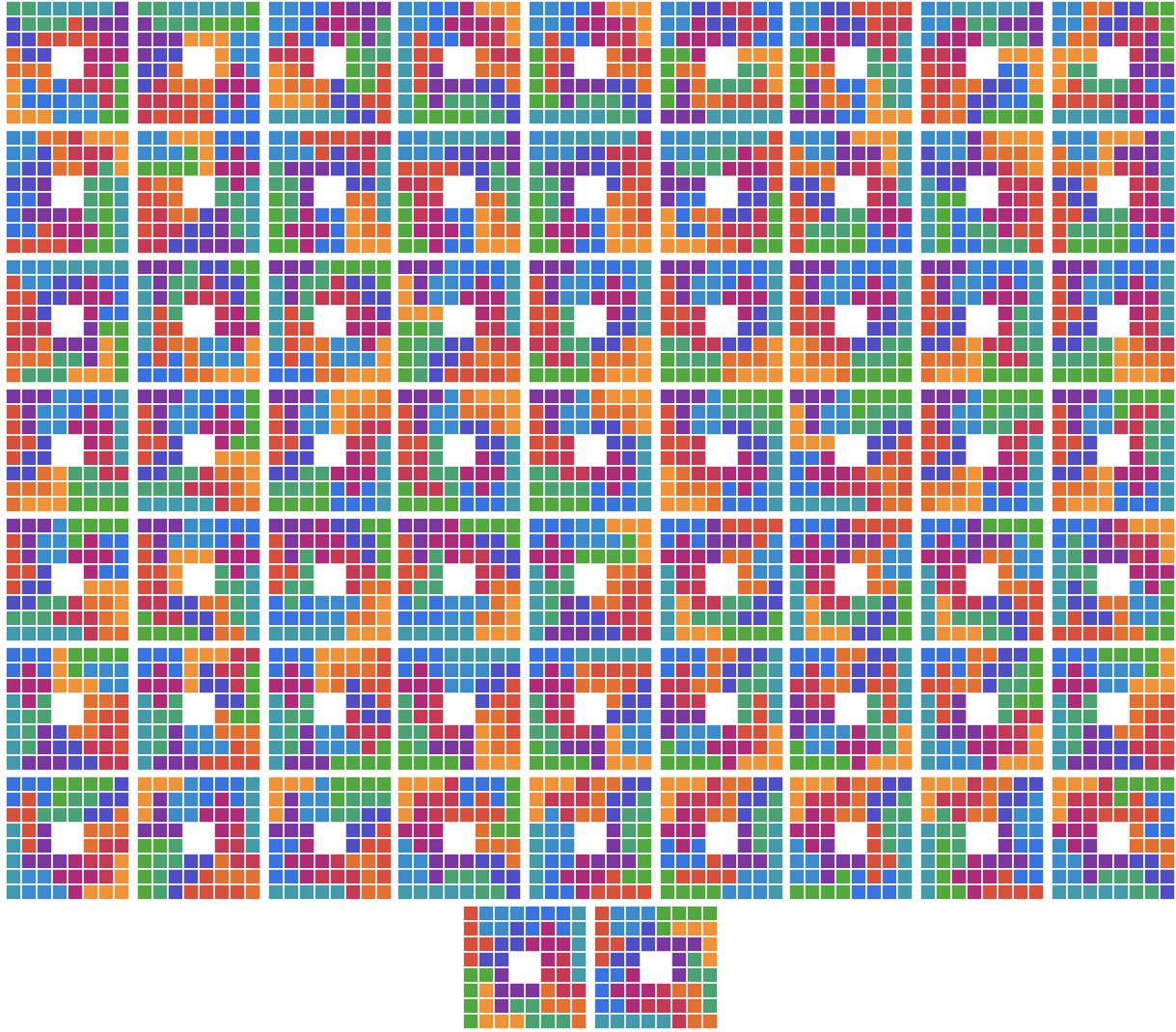
Four Square 1

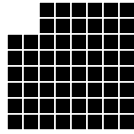
Several possible solutions to Dudeney's puzzle are included here, but with one piece missing: The pieces as shown in Dudeney's puzzle must form a proper chessboard when assembled!



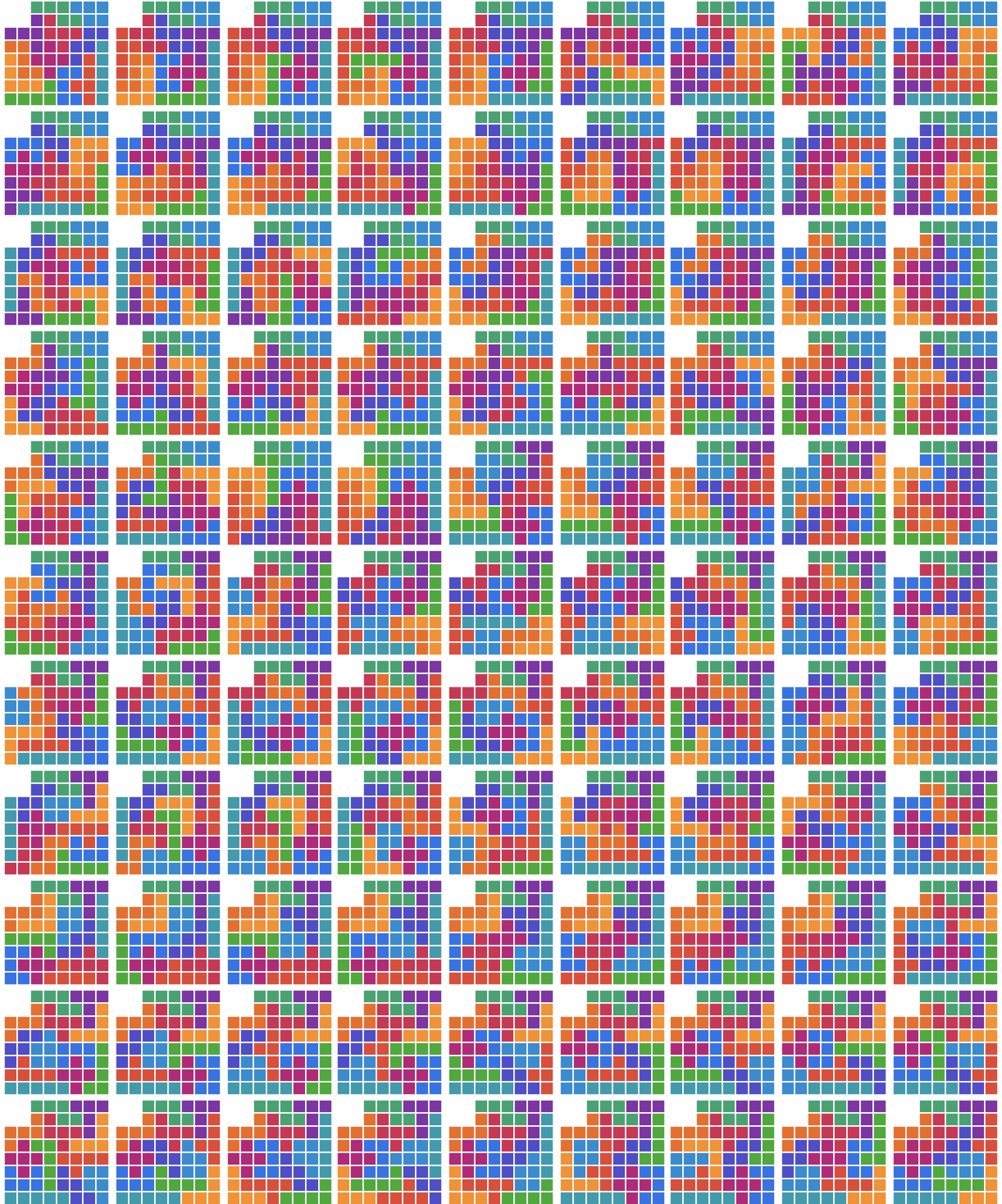


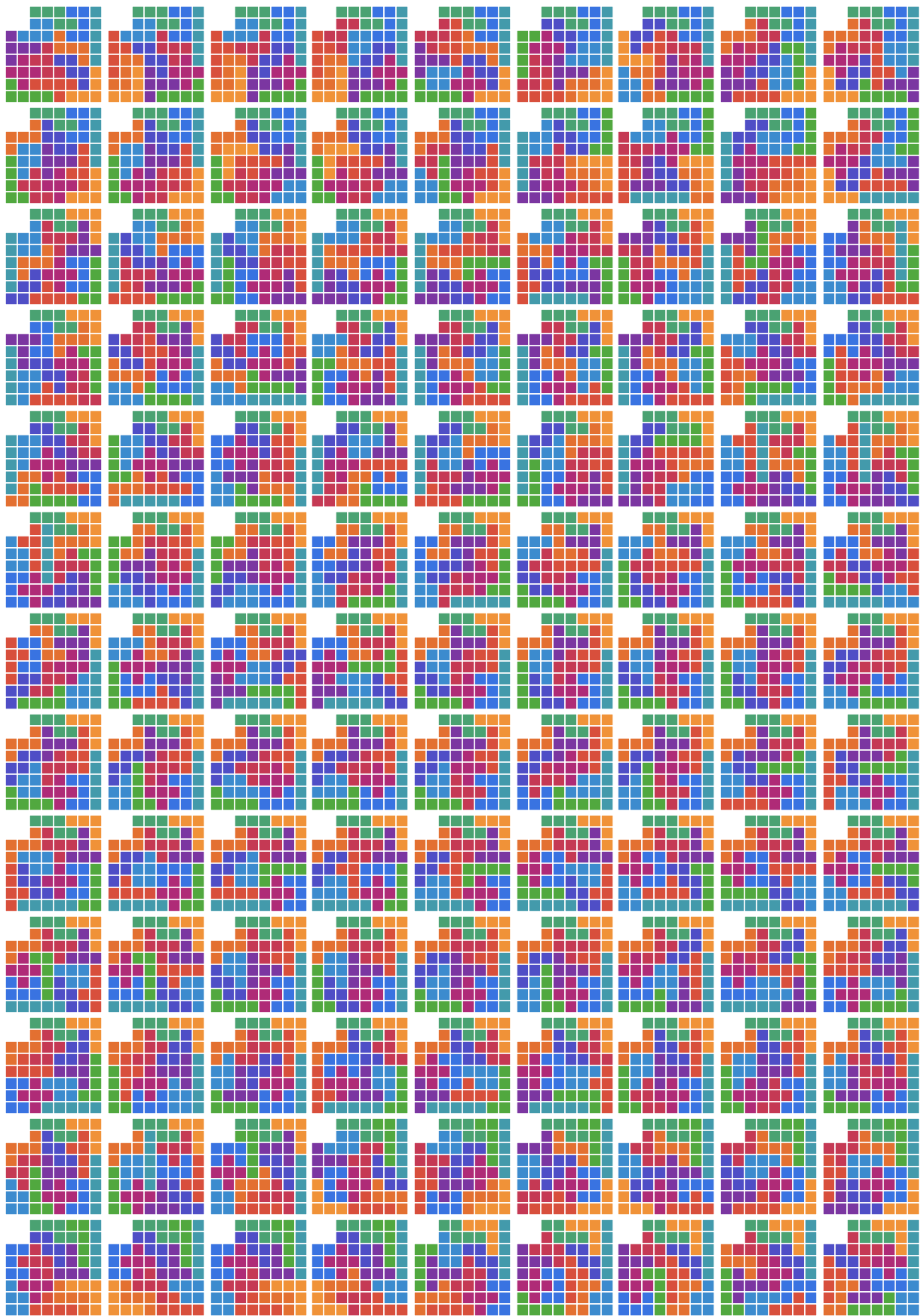
center
65 Solutions

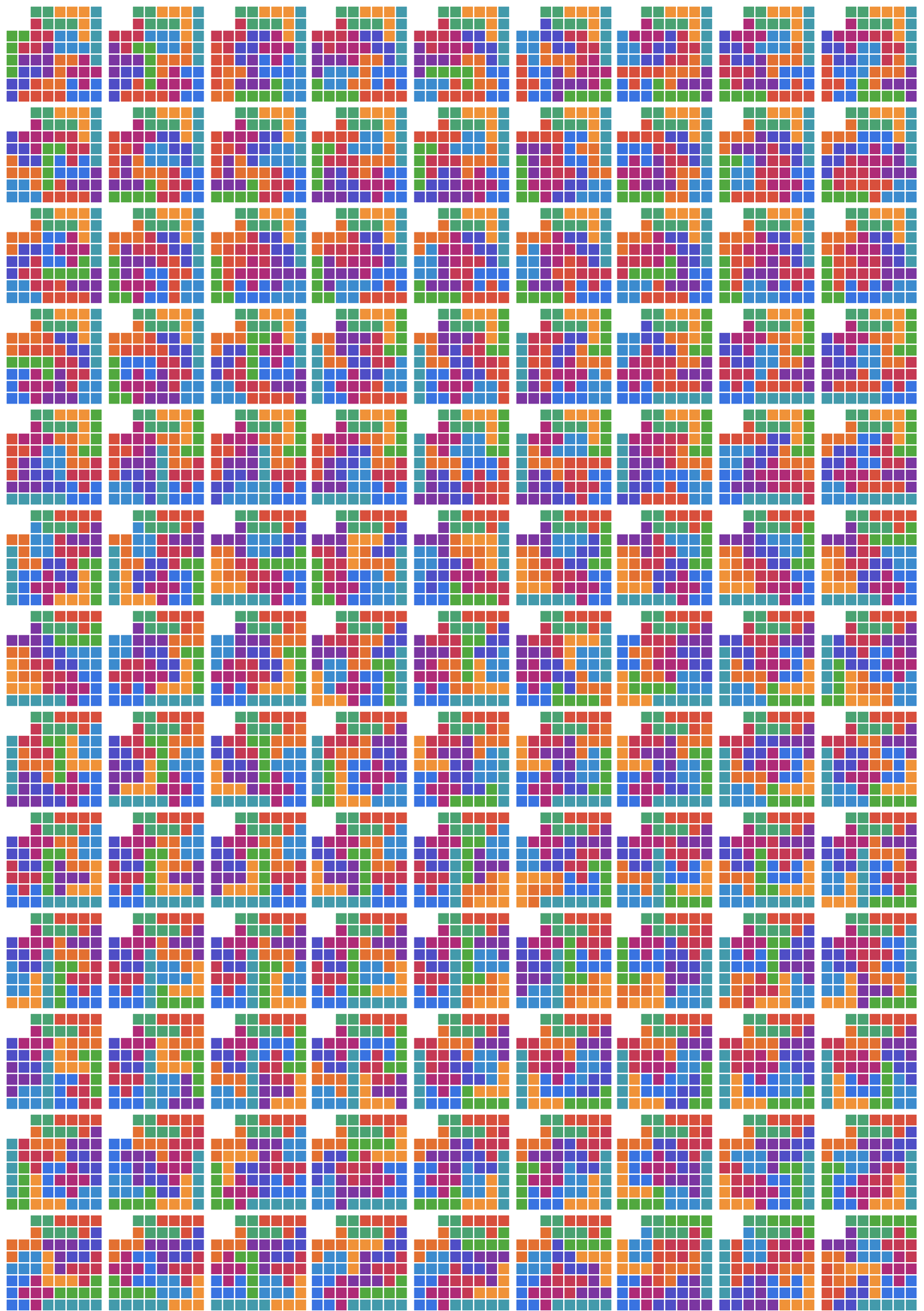


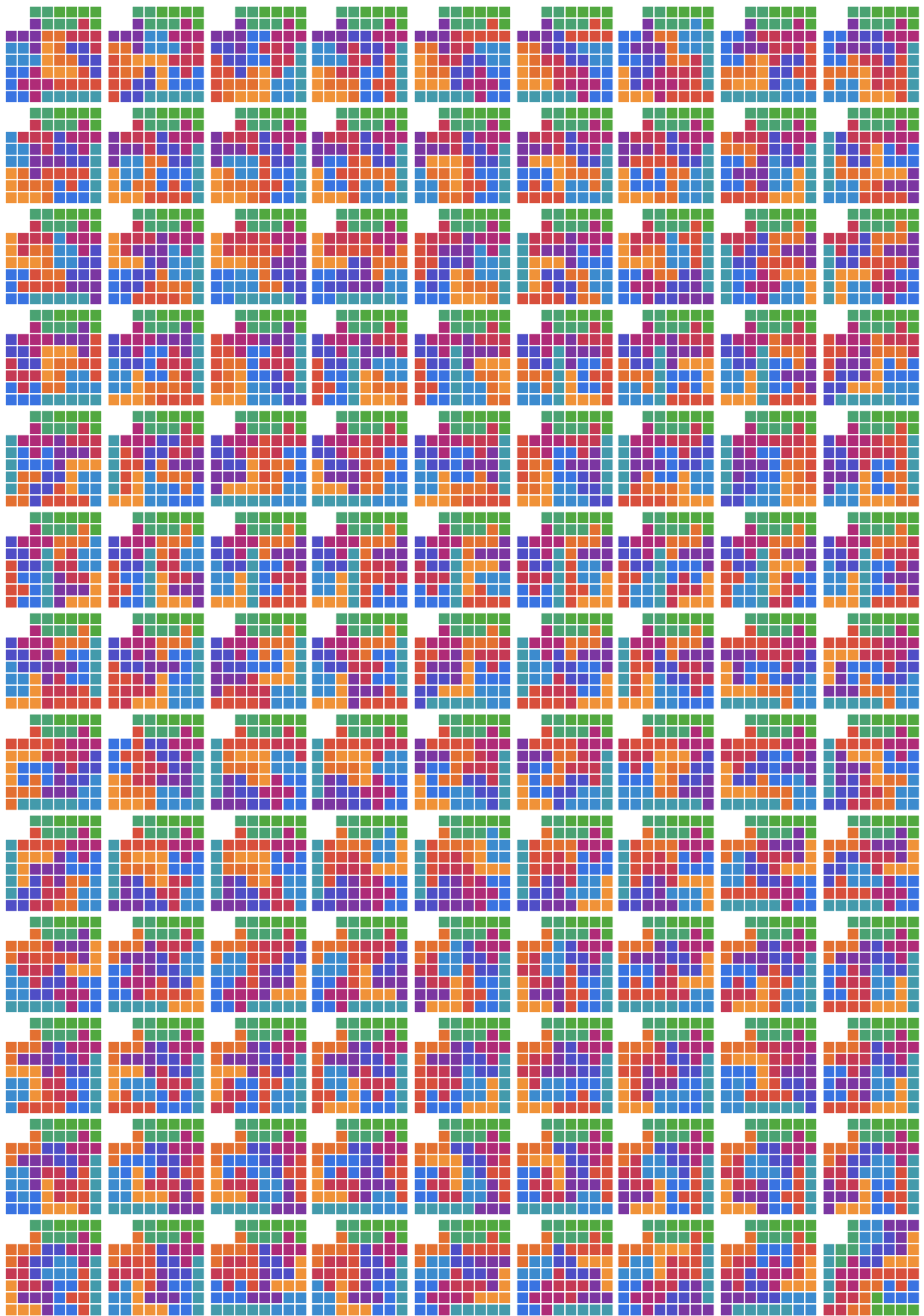


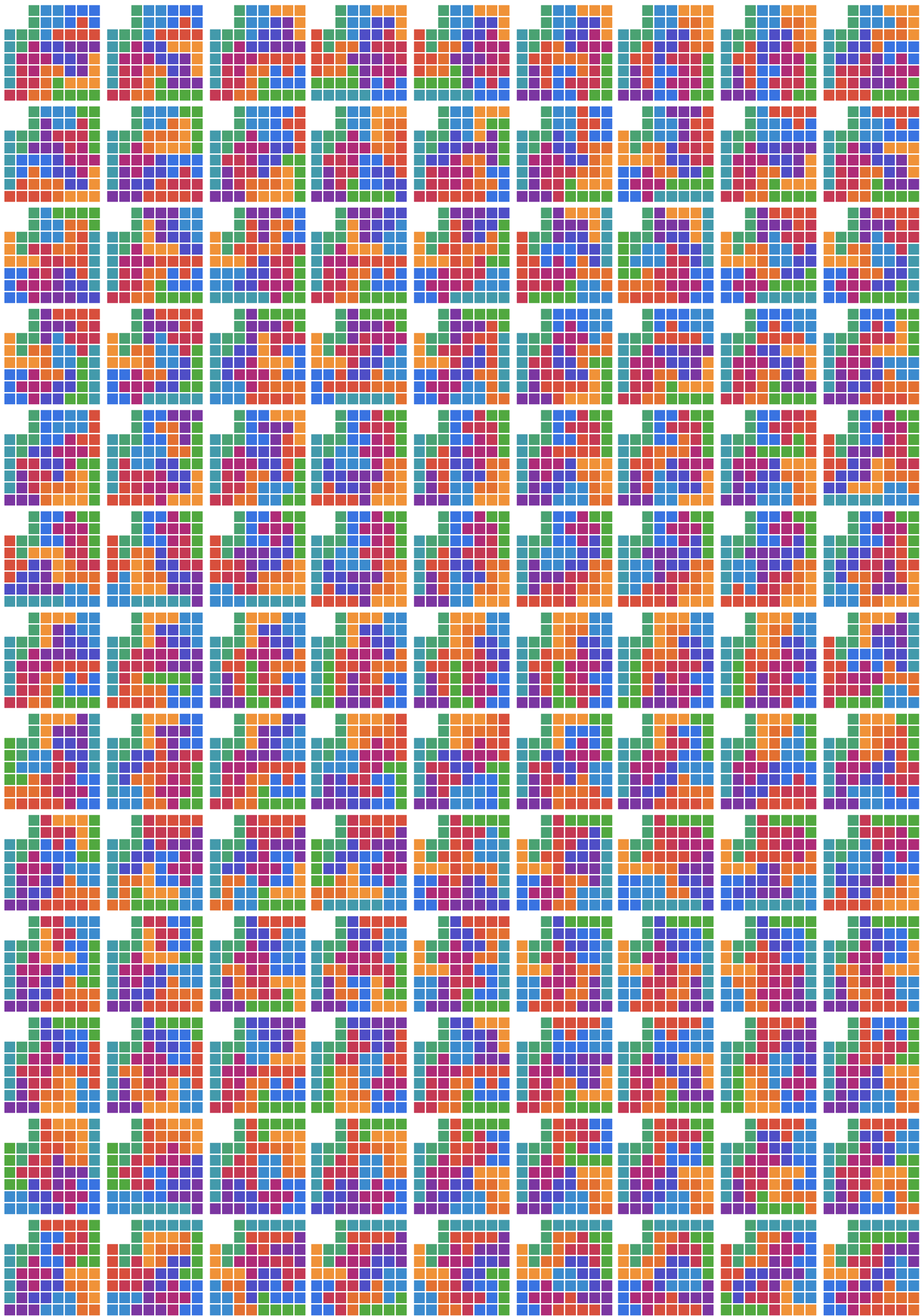
corner
5,027 Solutions

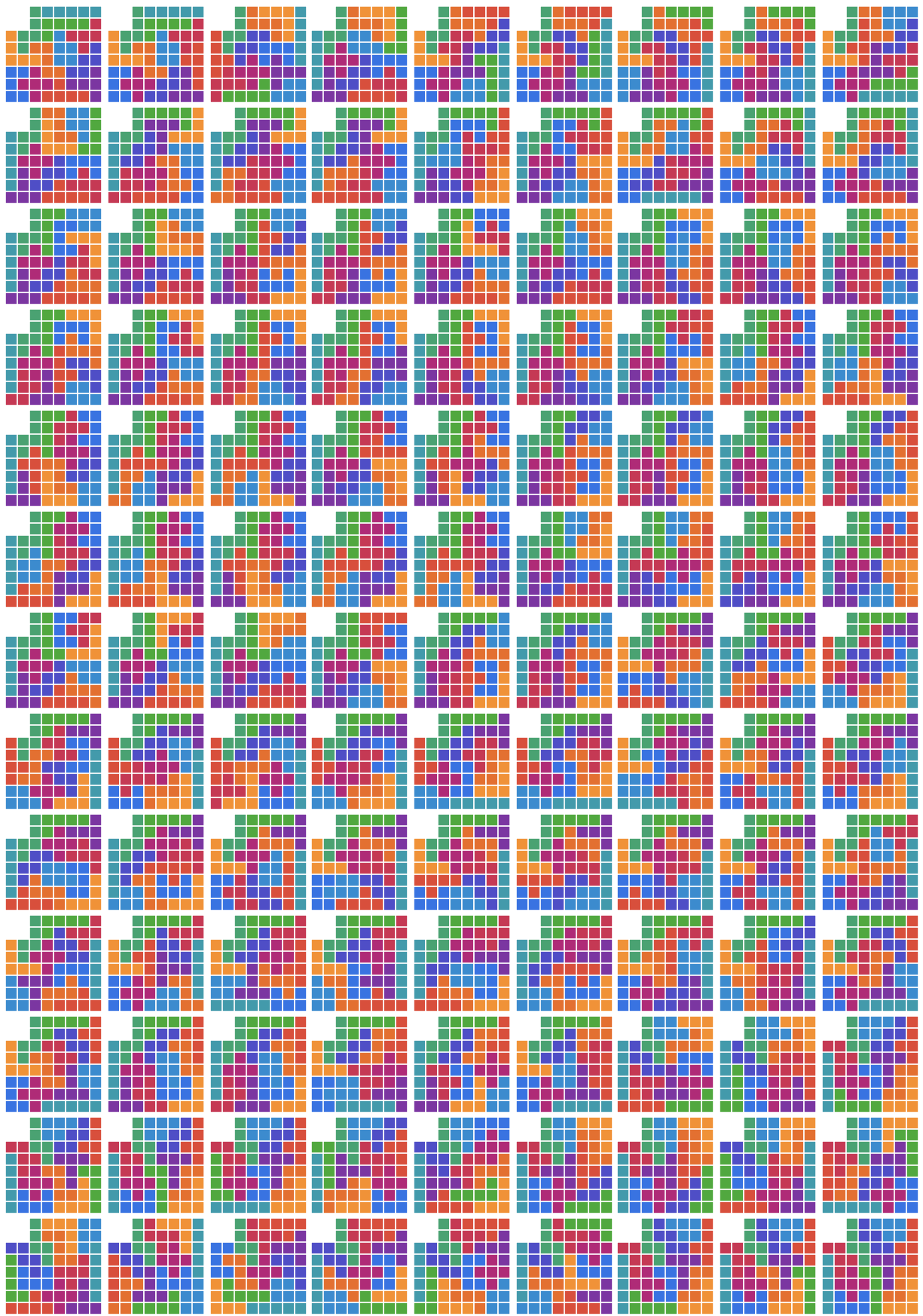


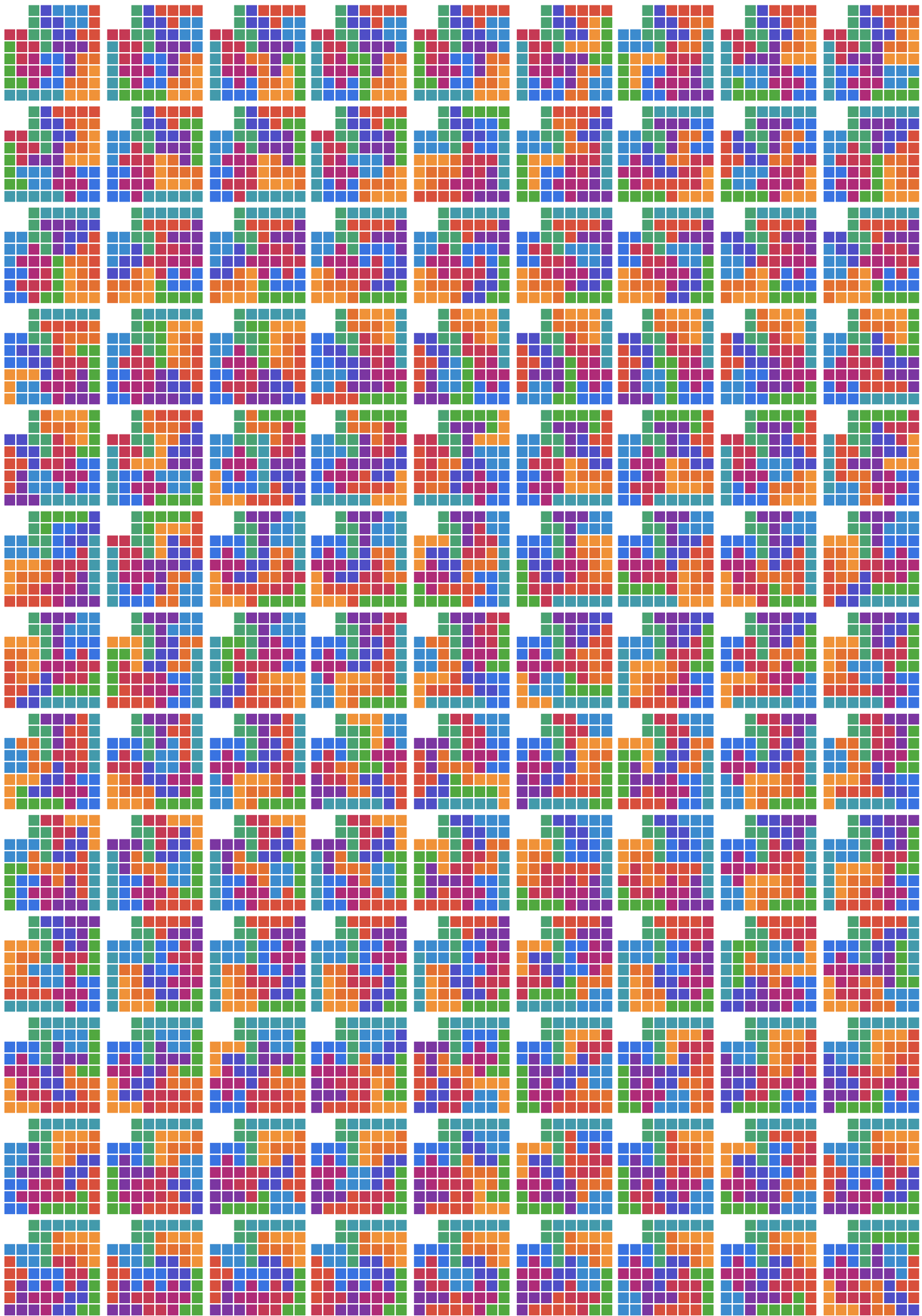


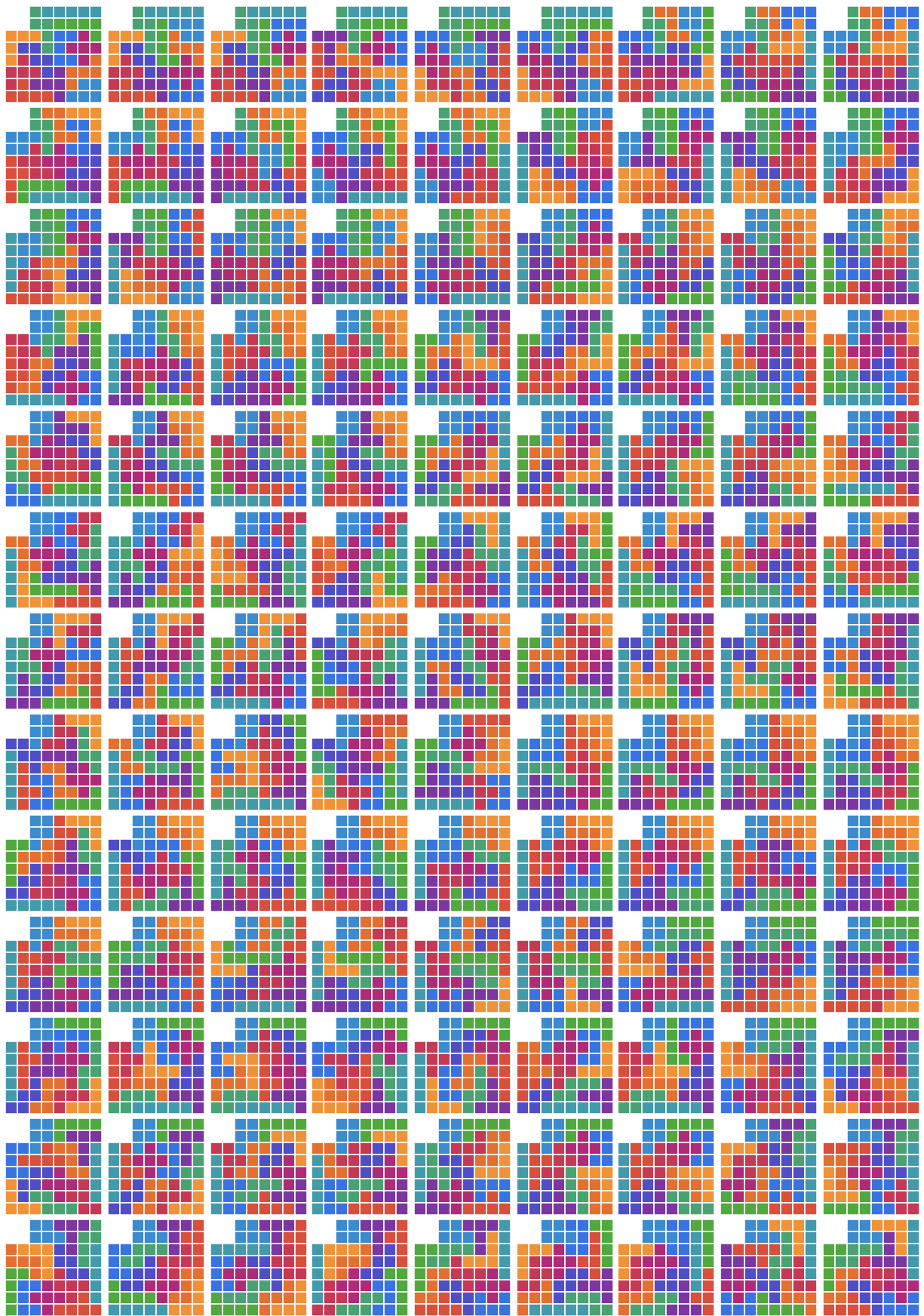


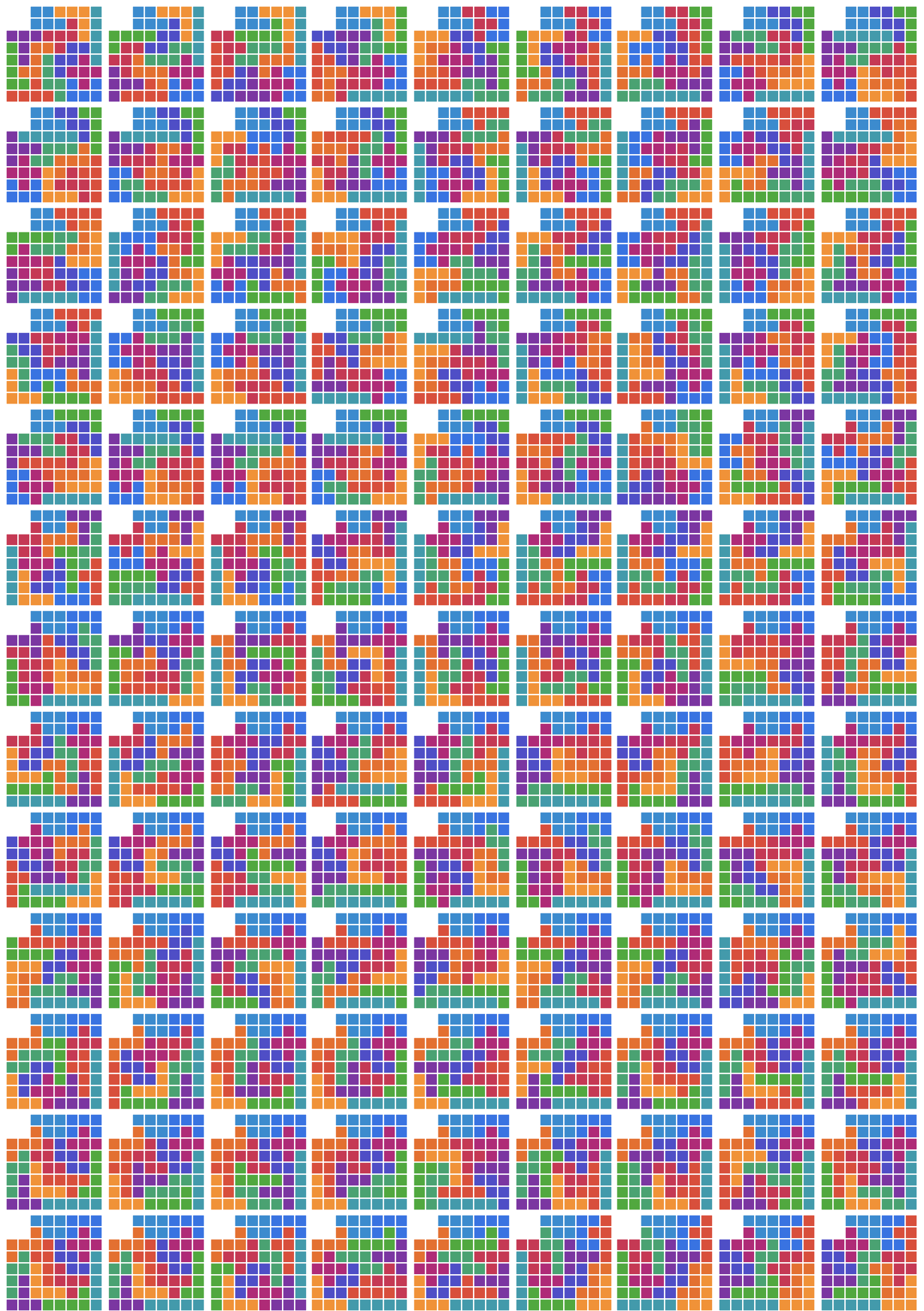


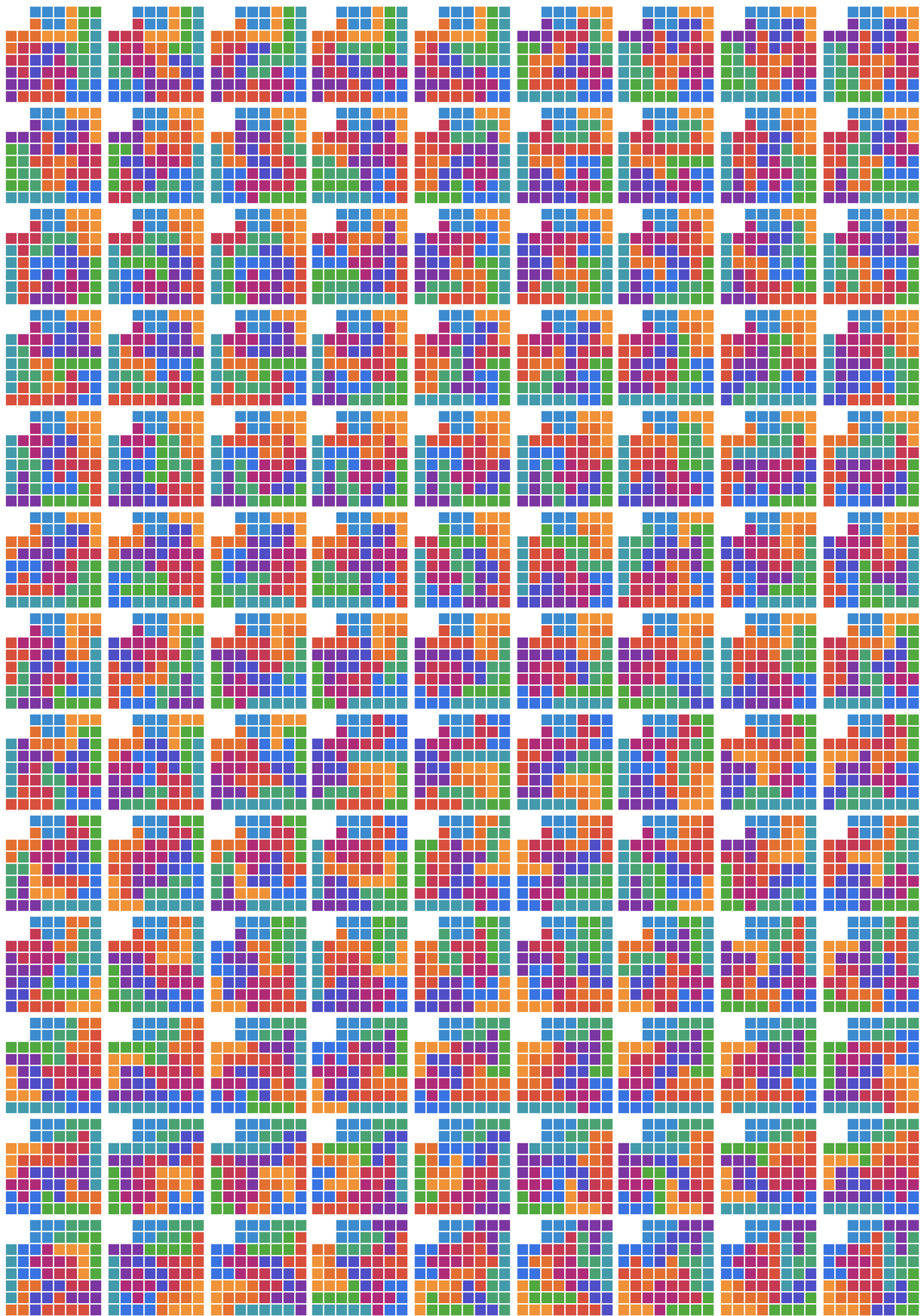


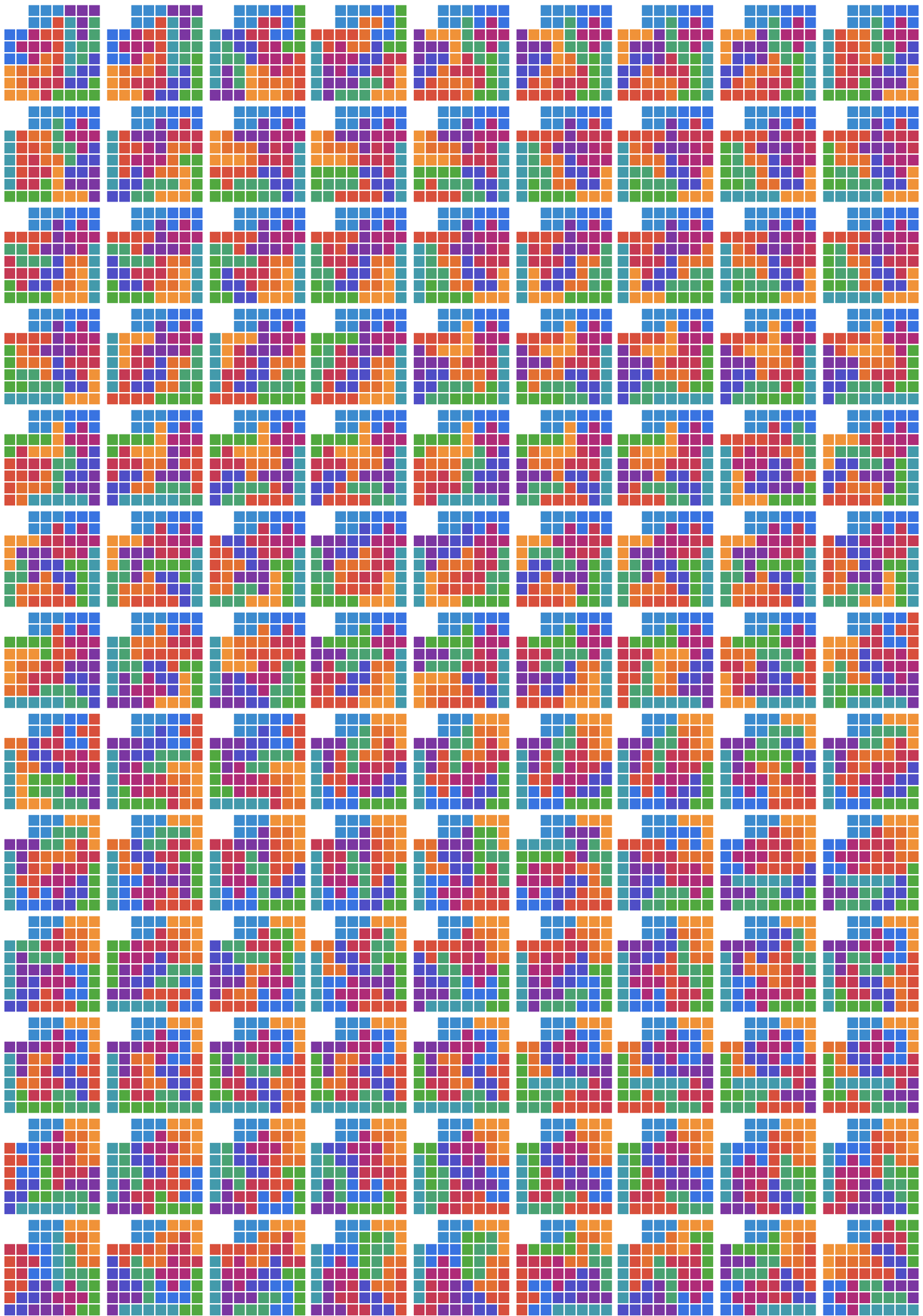


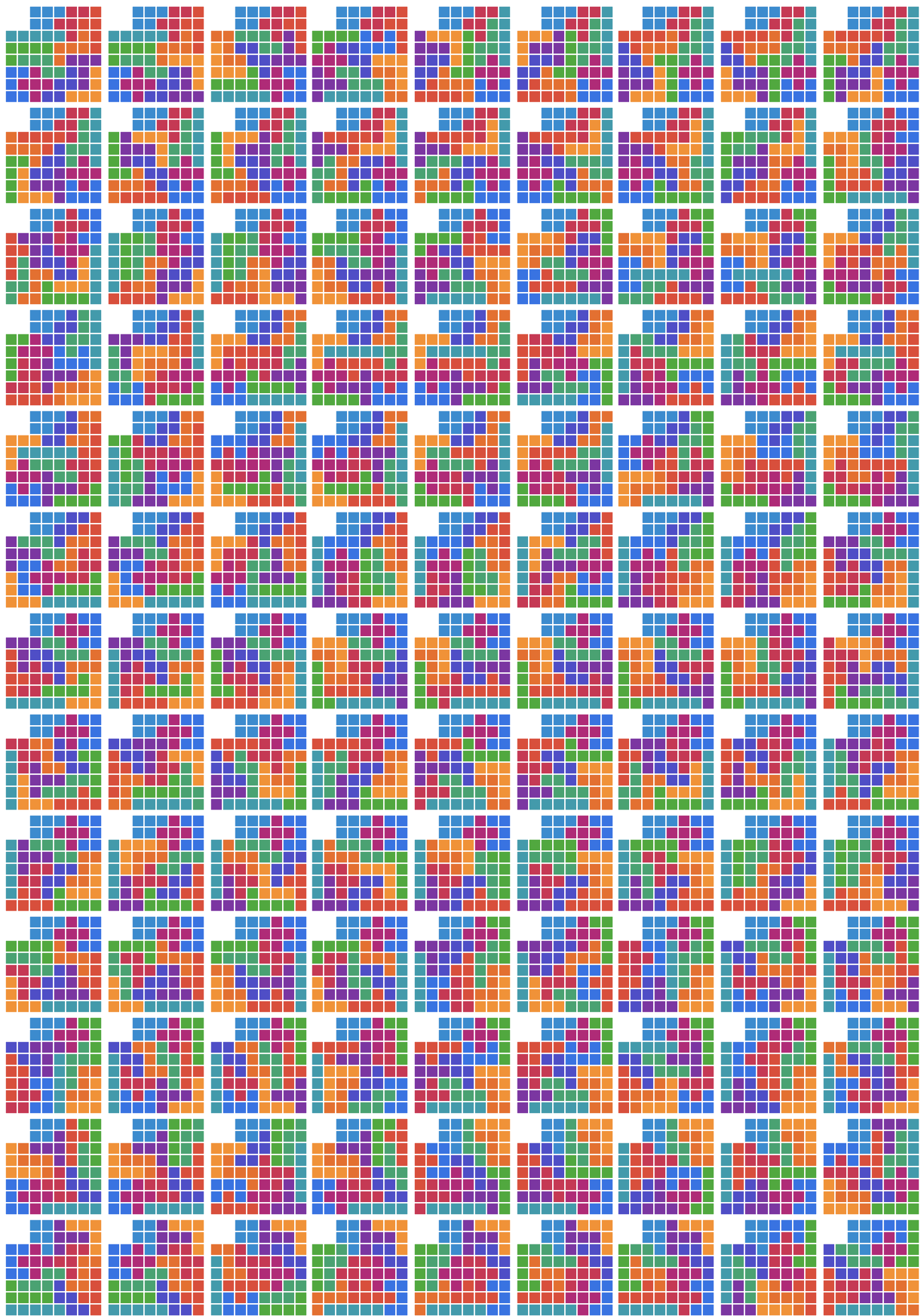


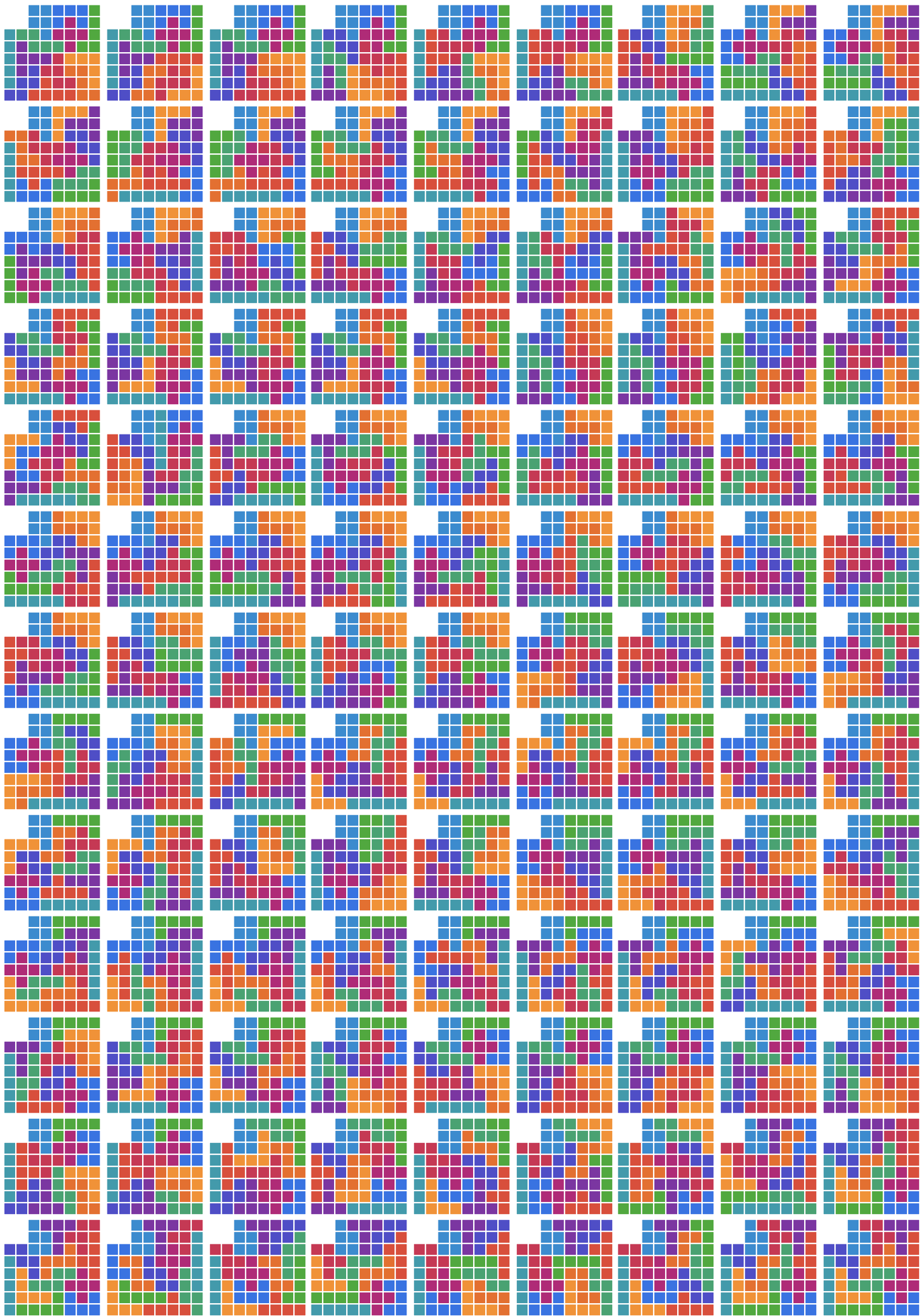


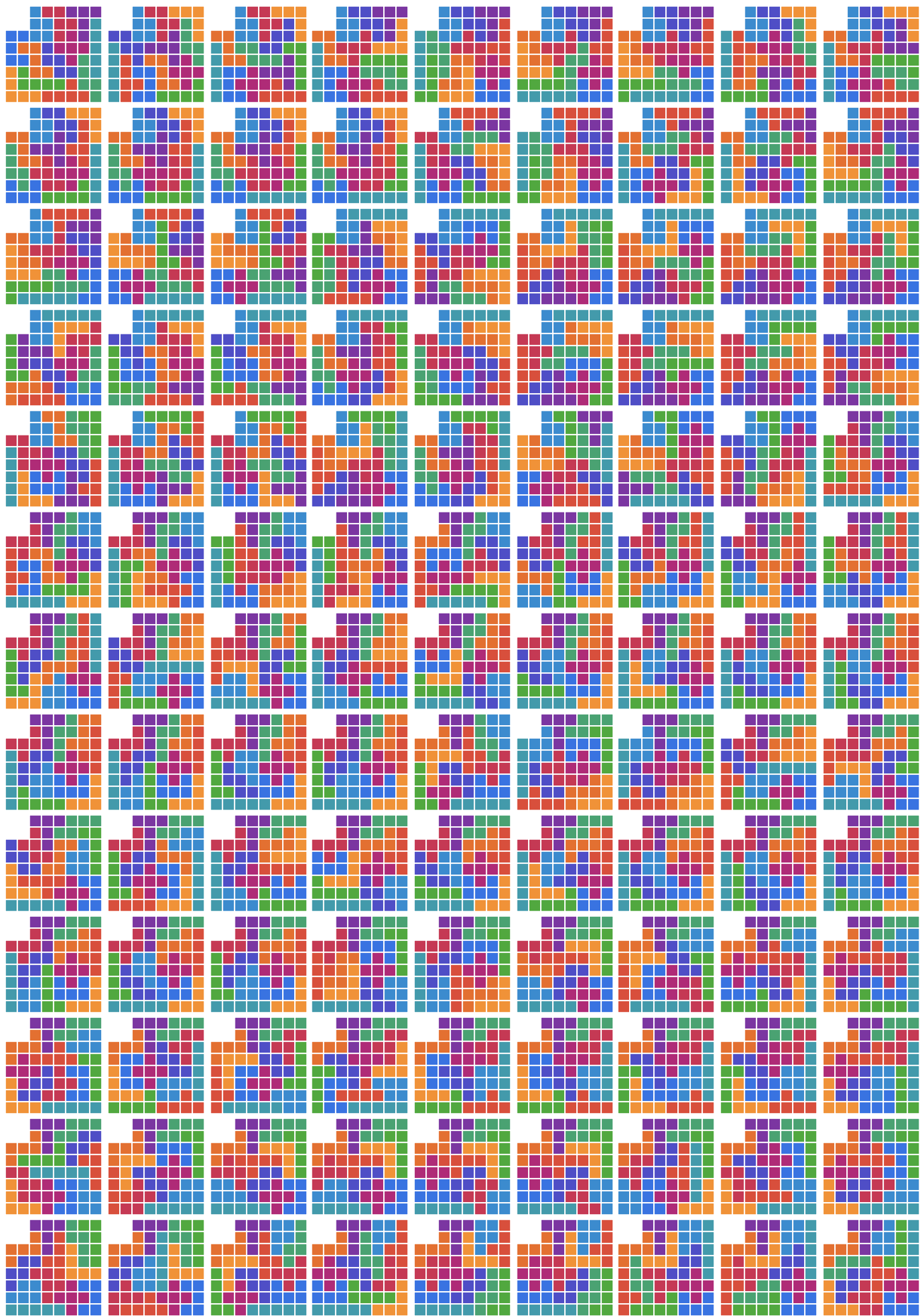


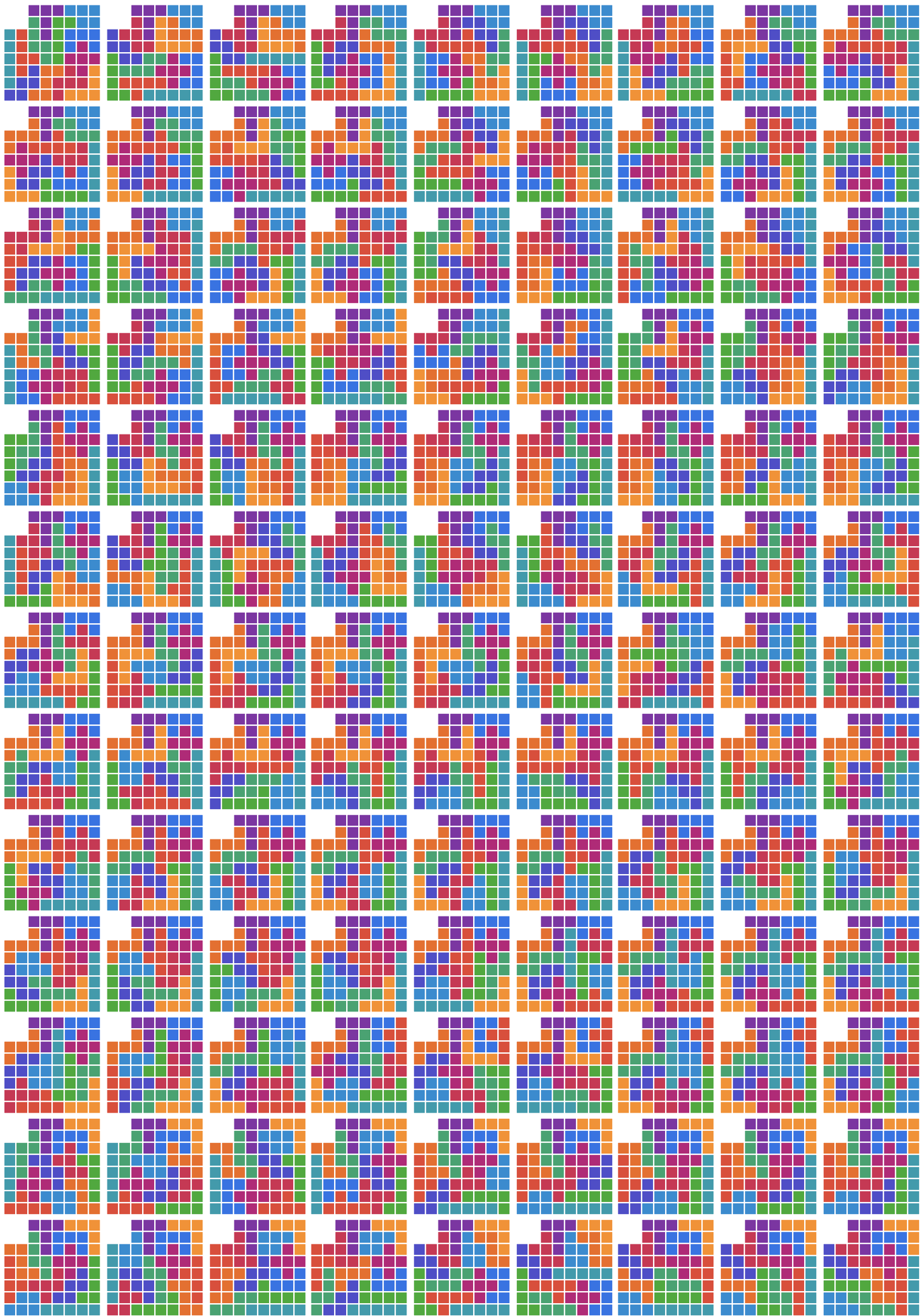


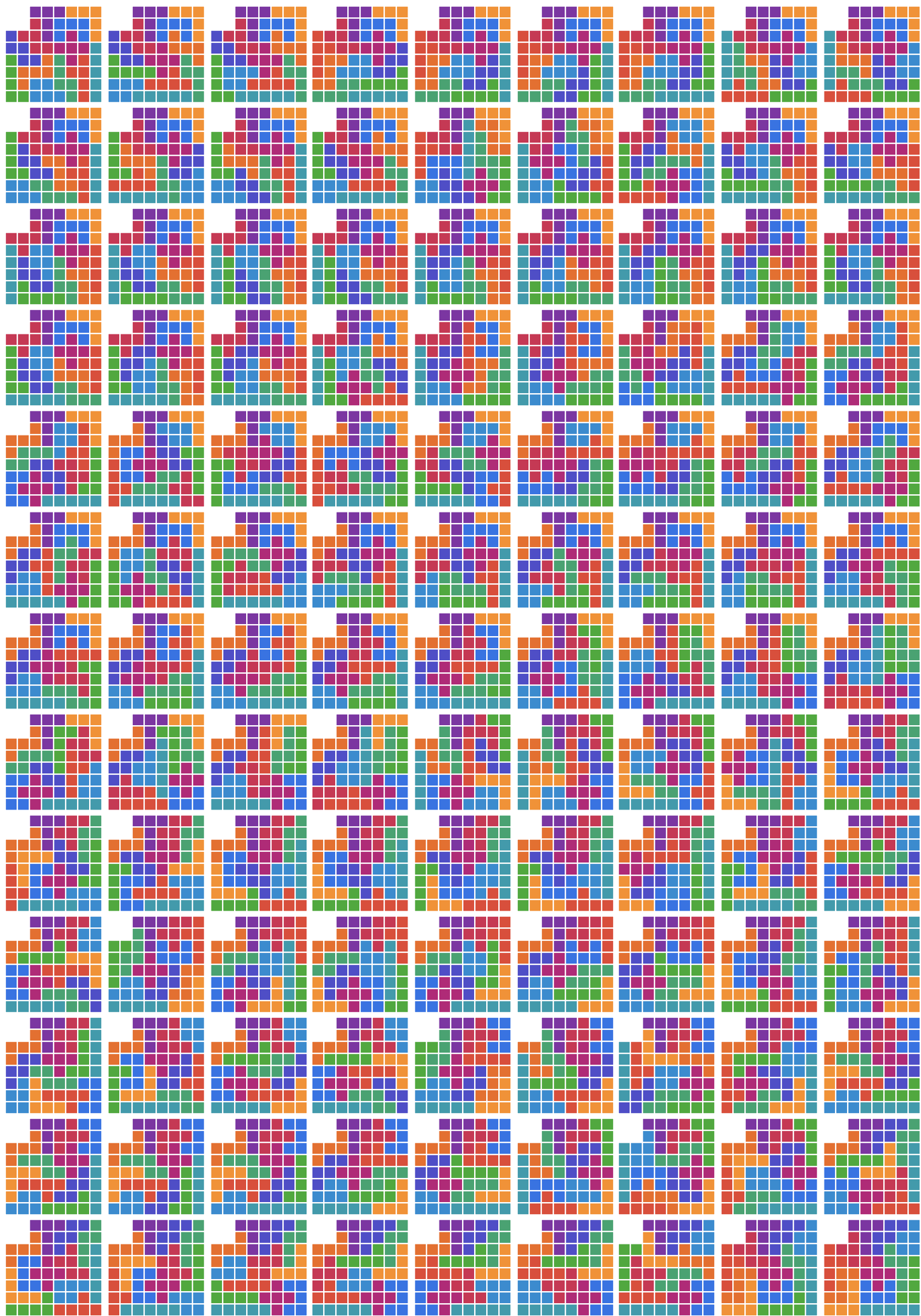


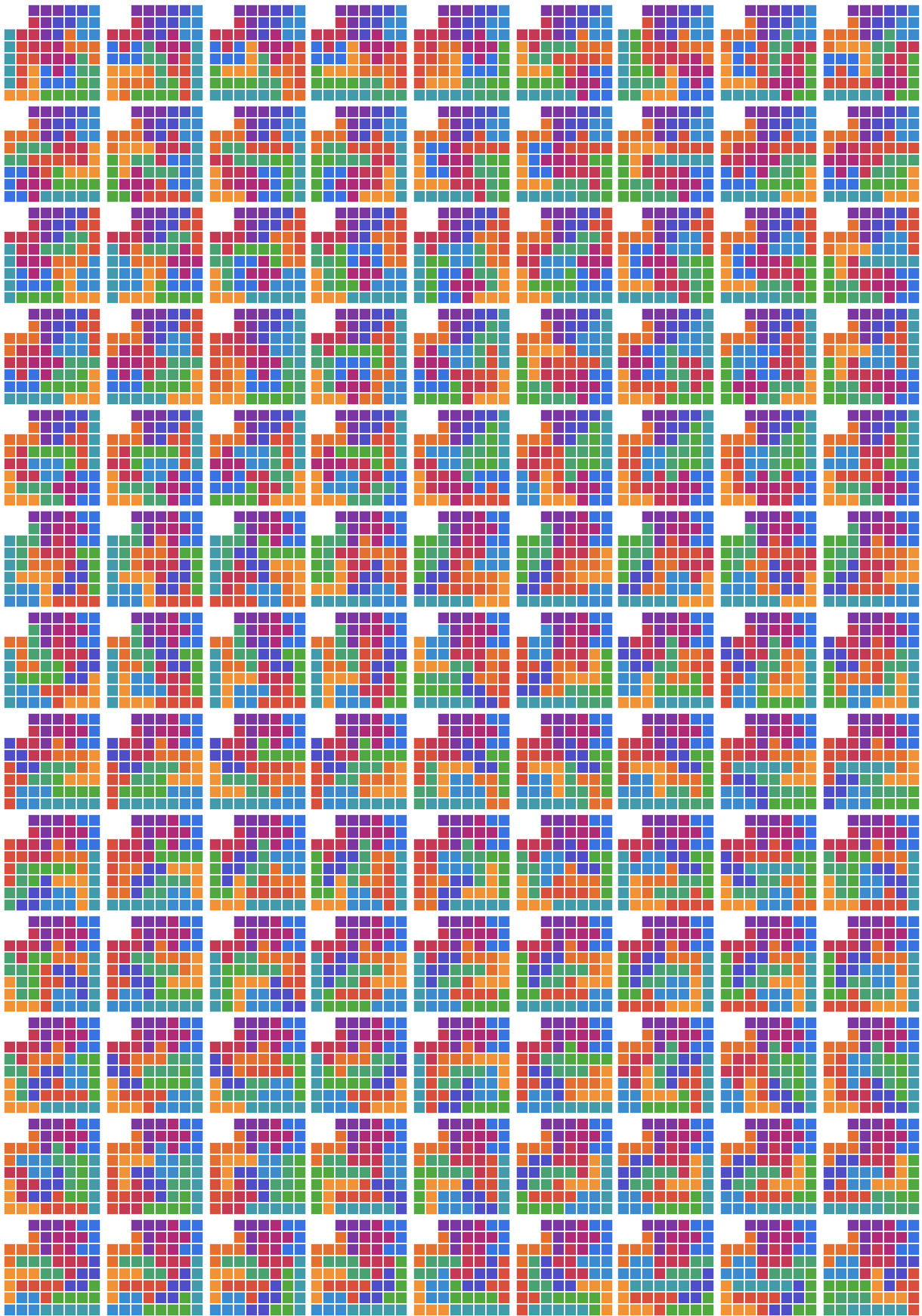


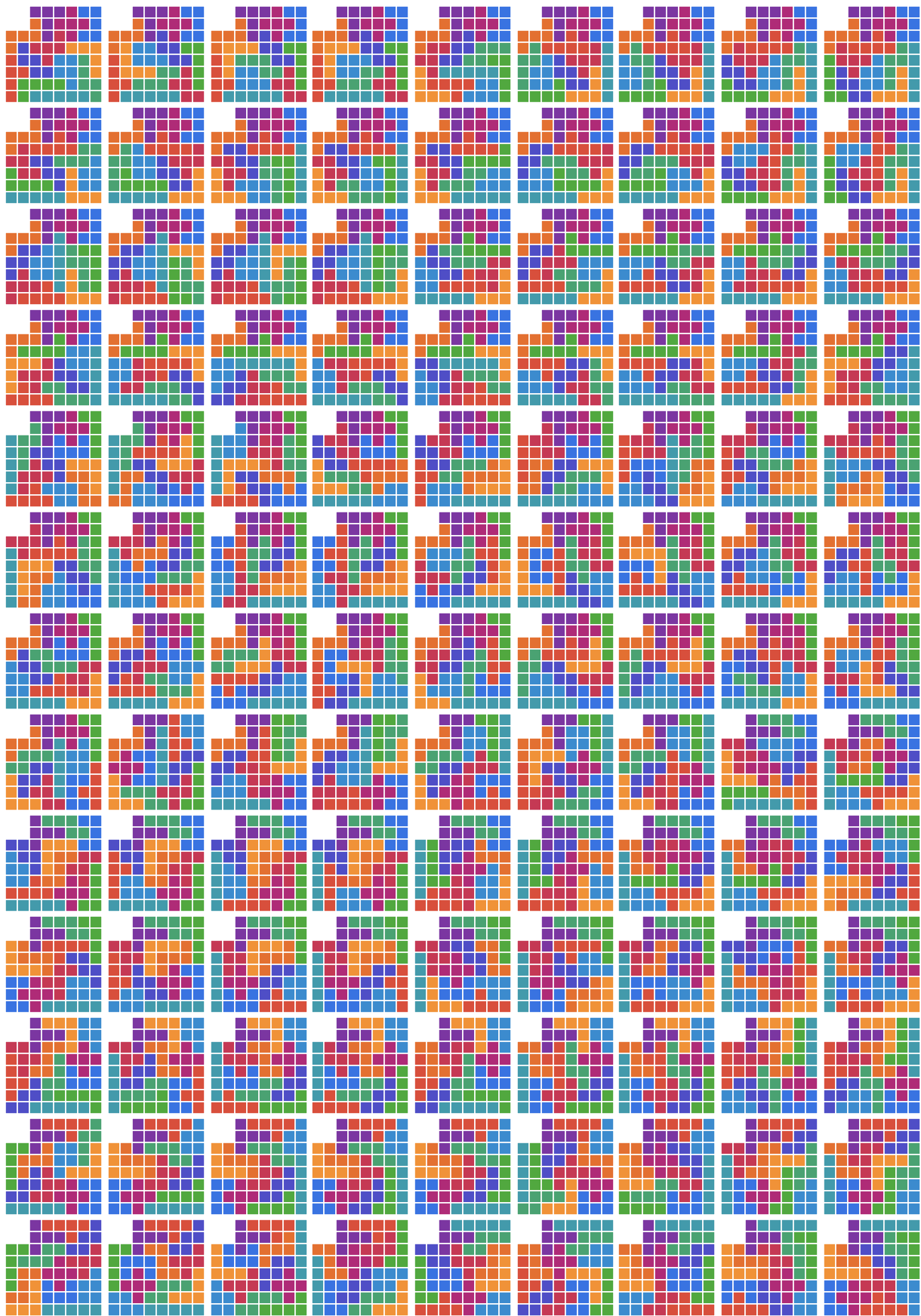


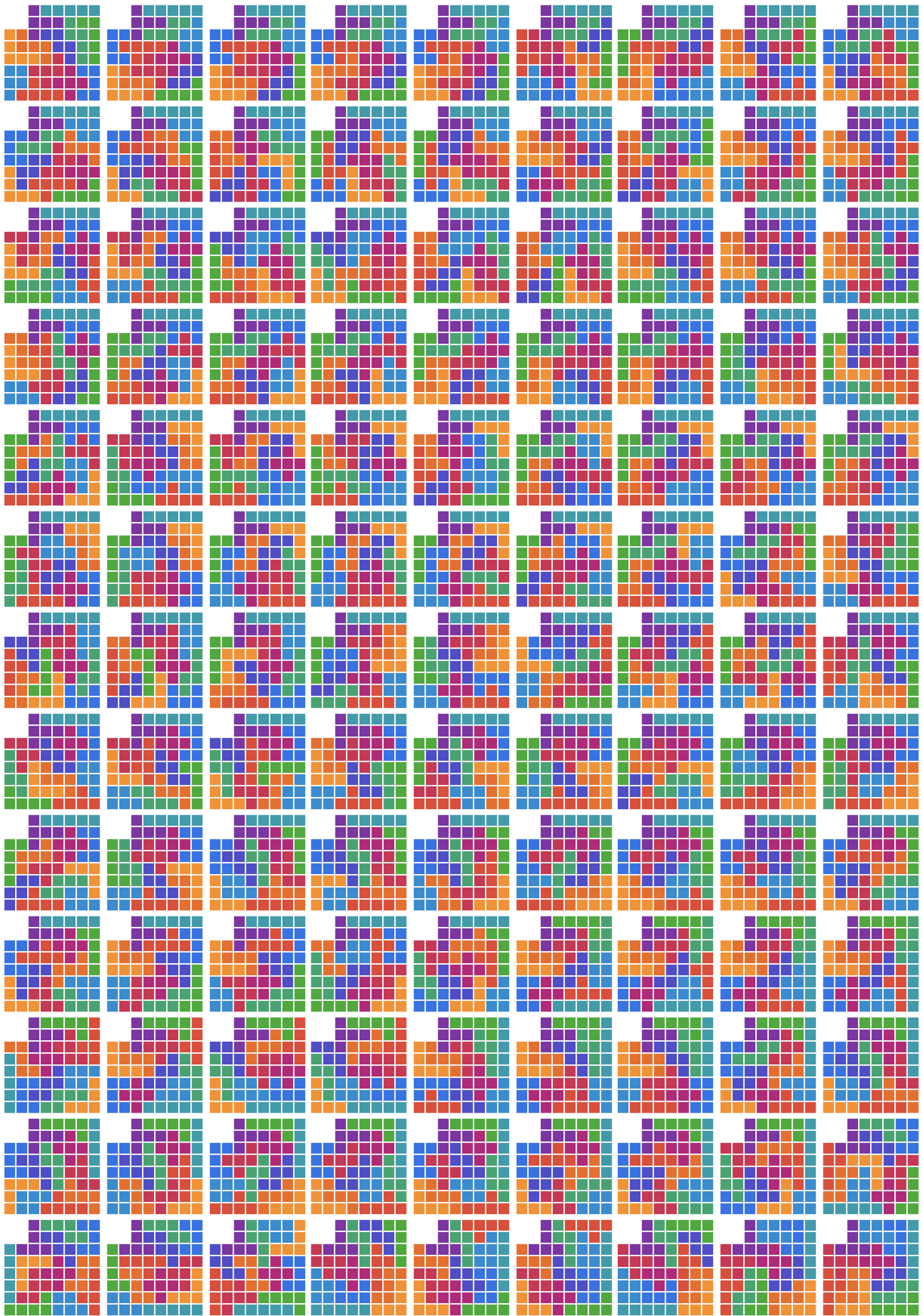


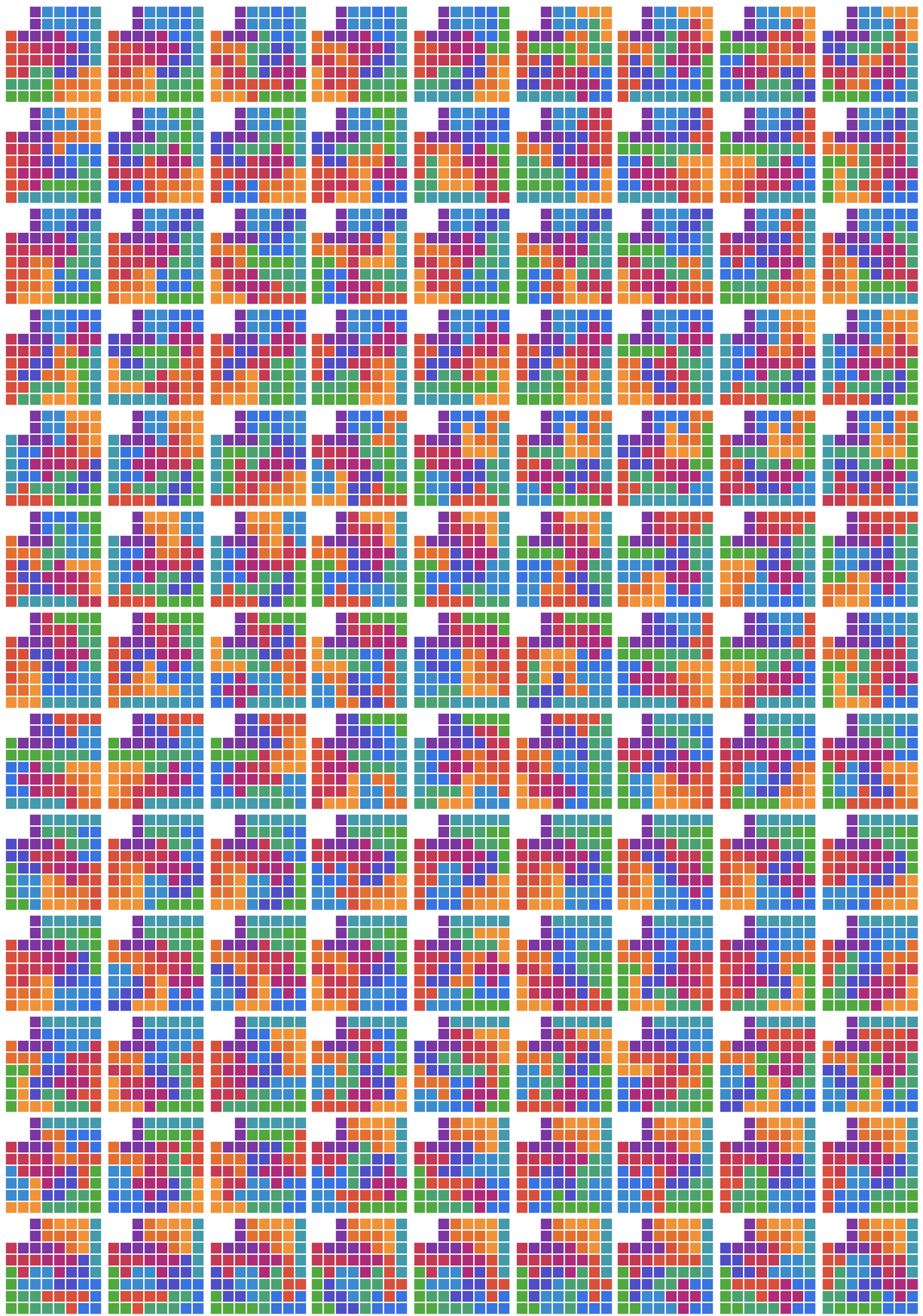


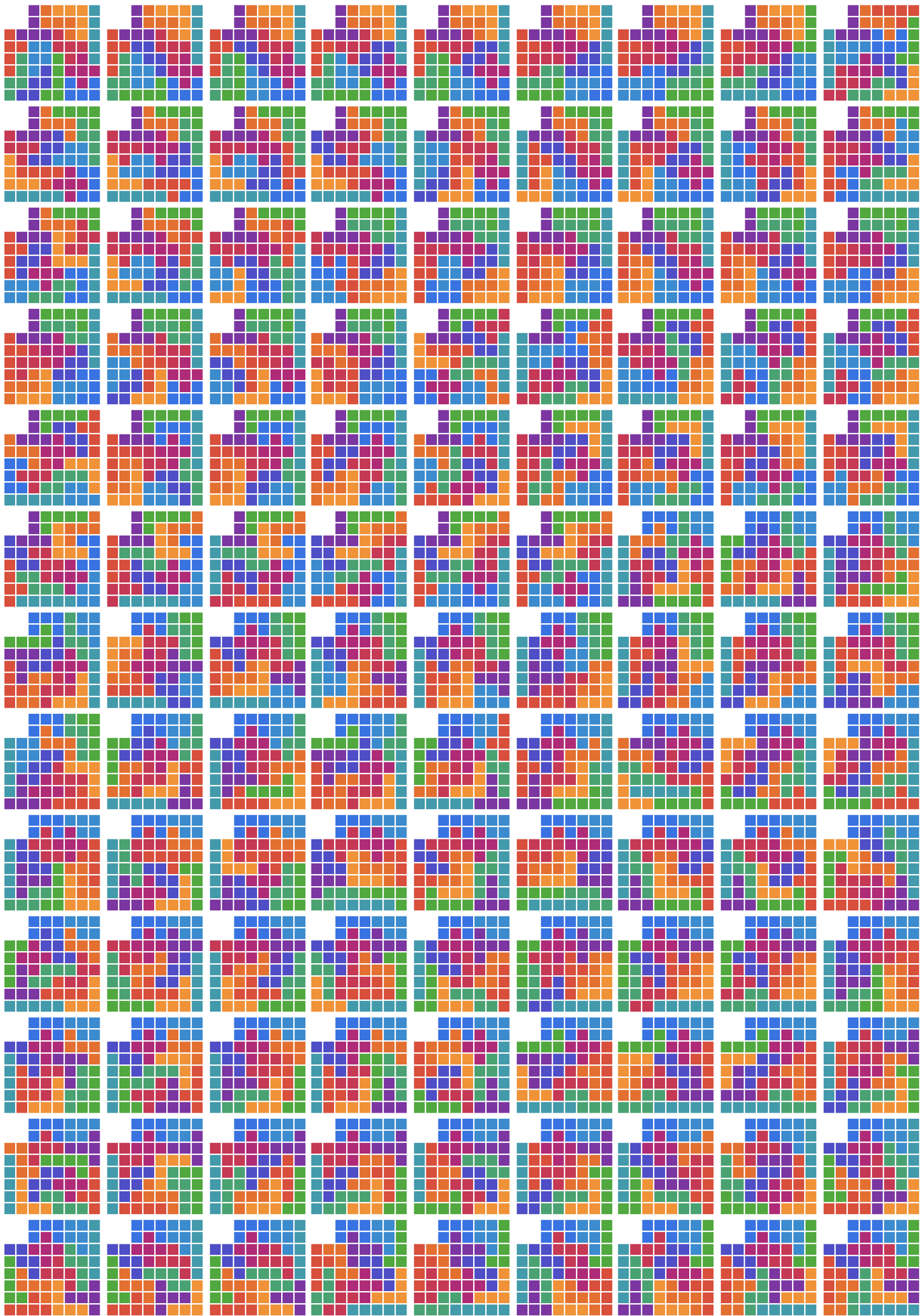


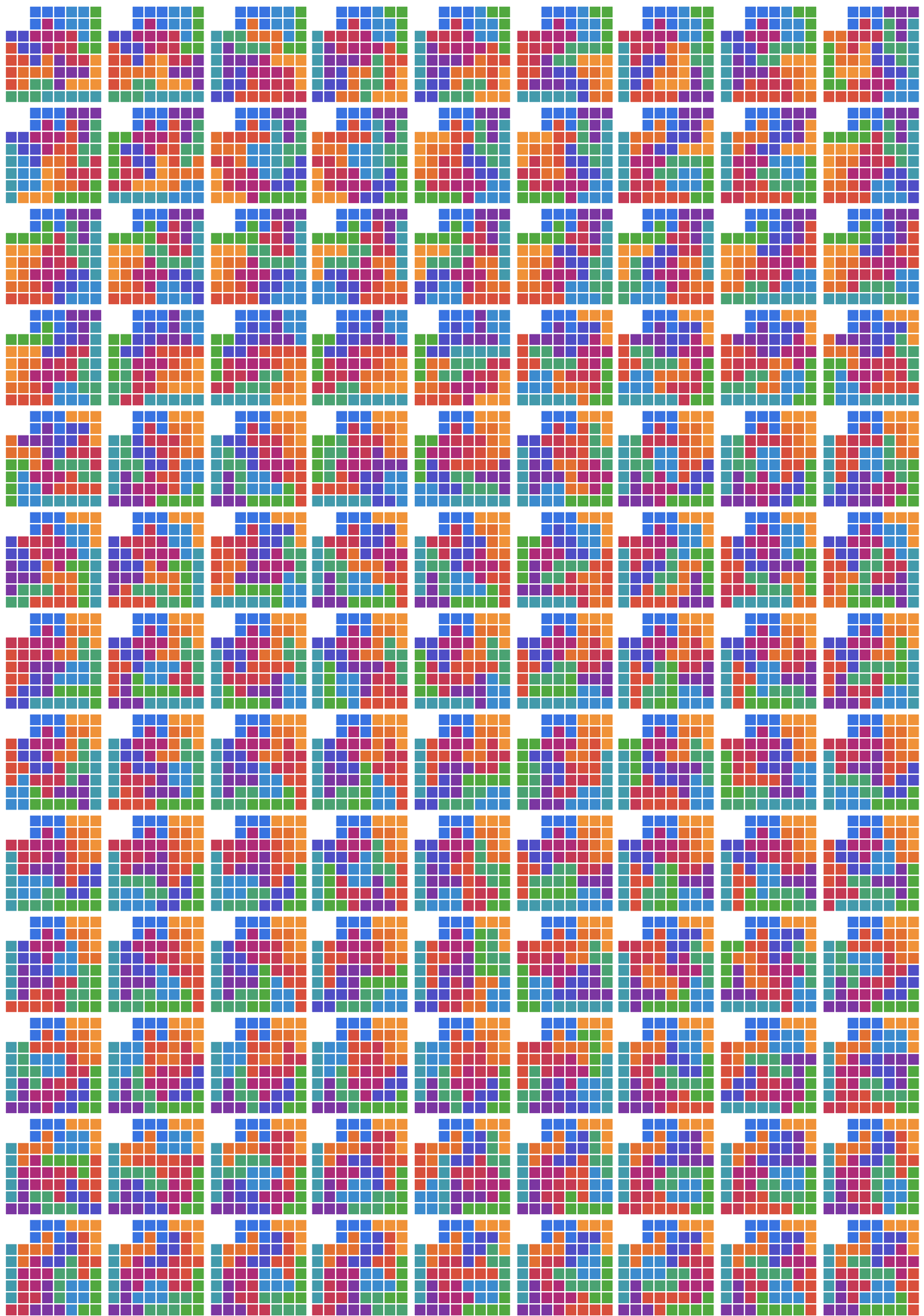


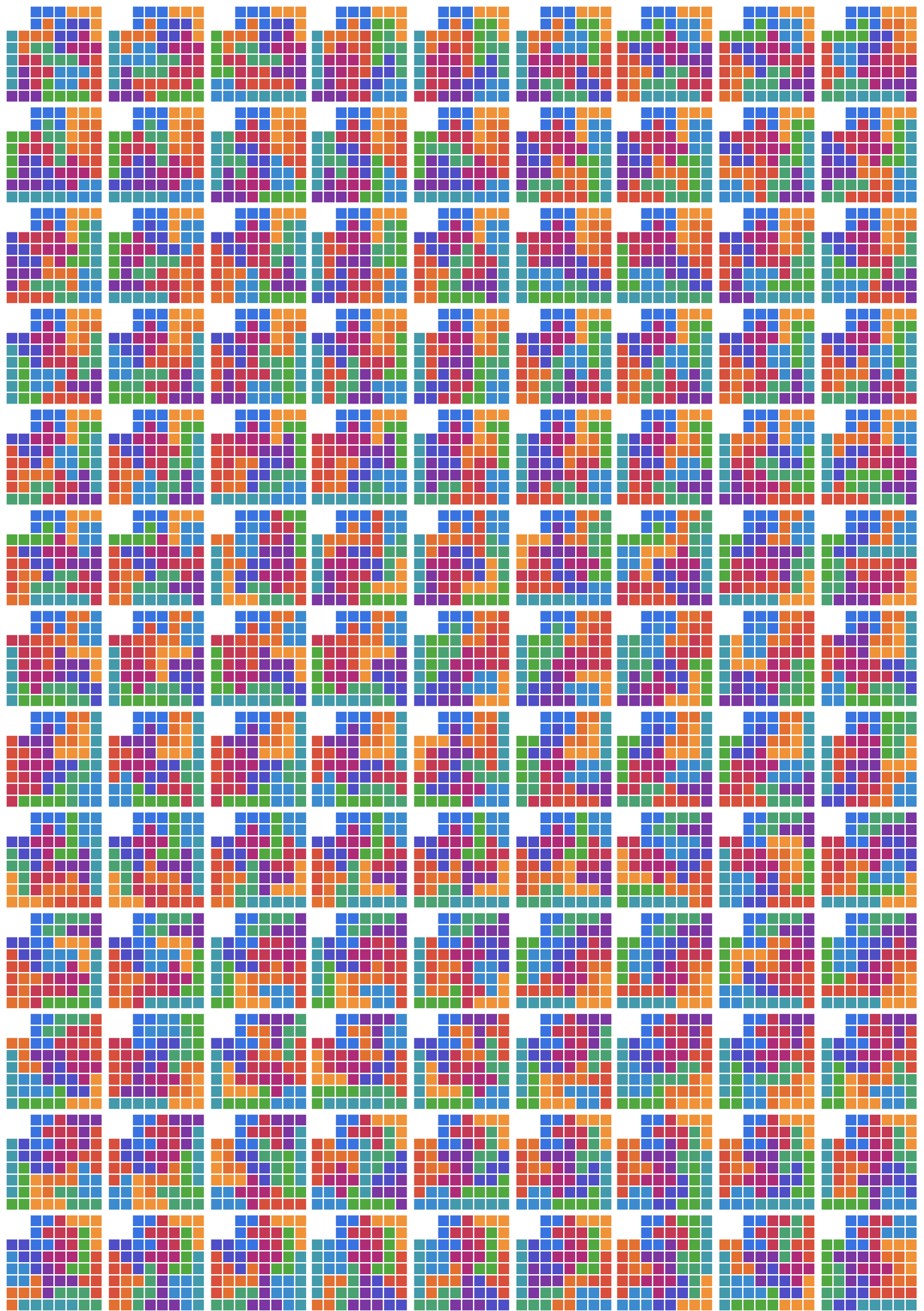


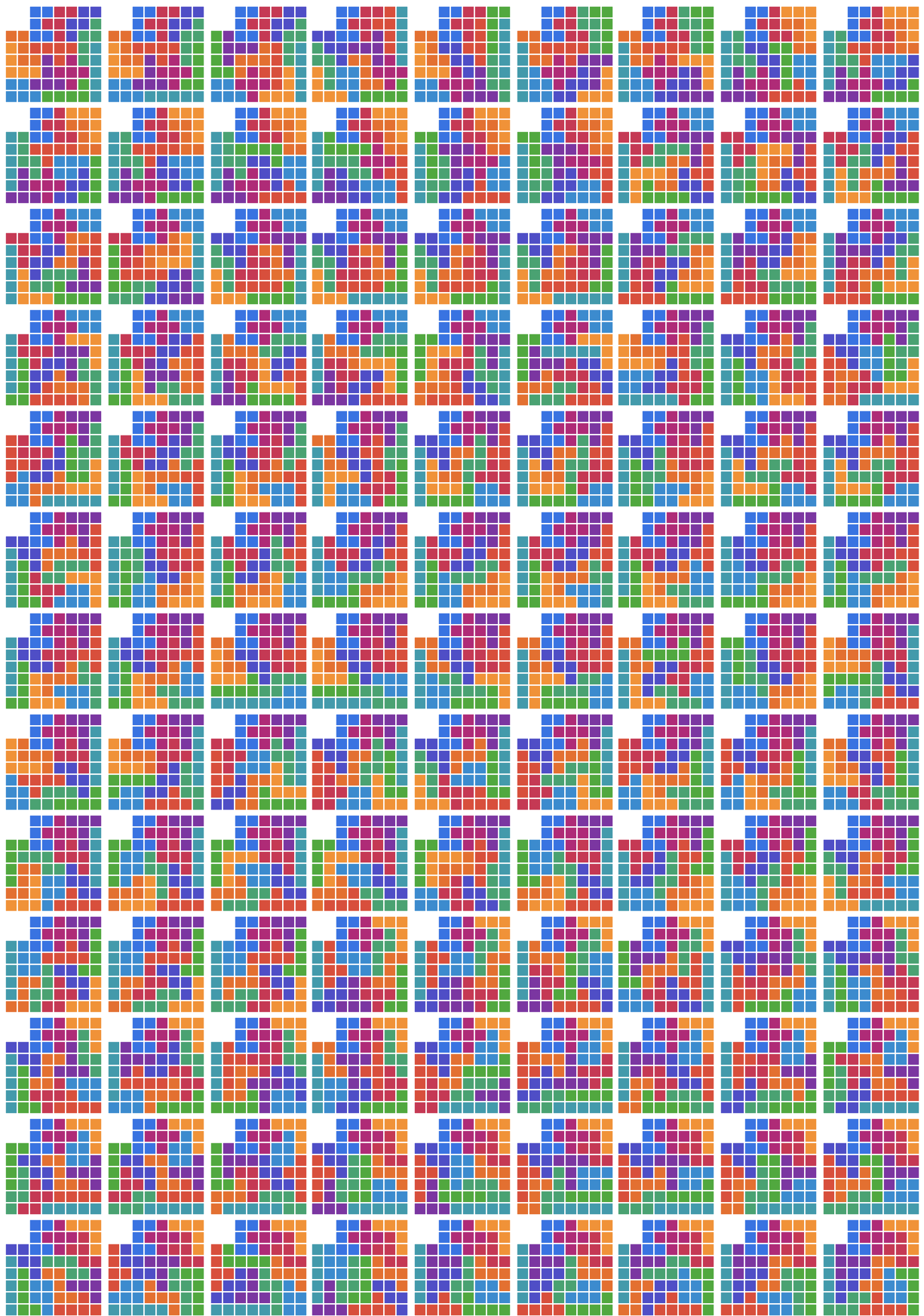


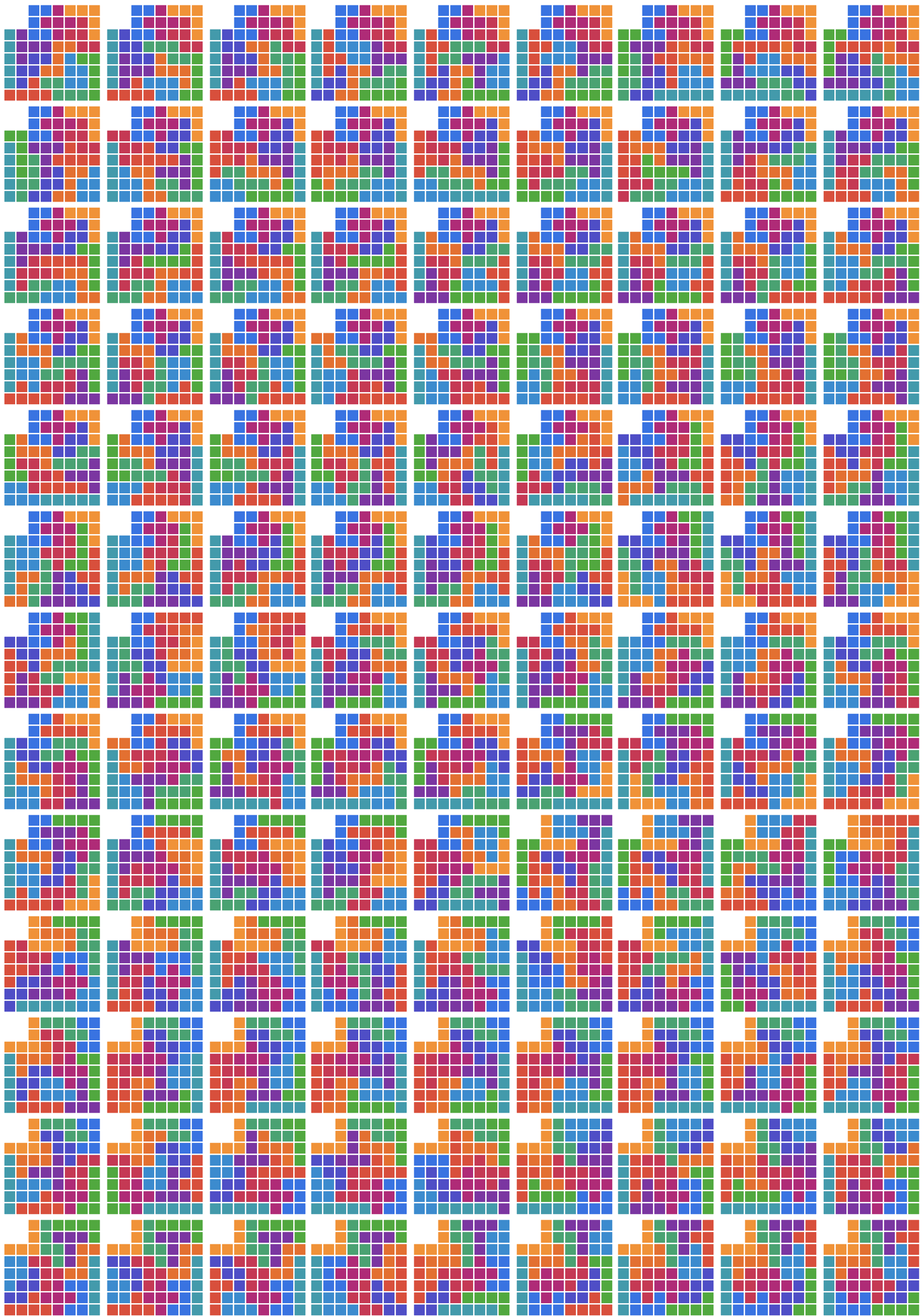


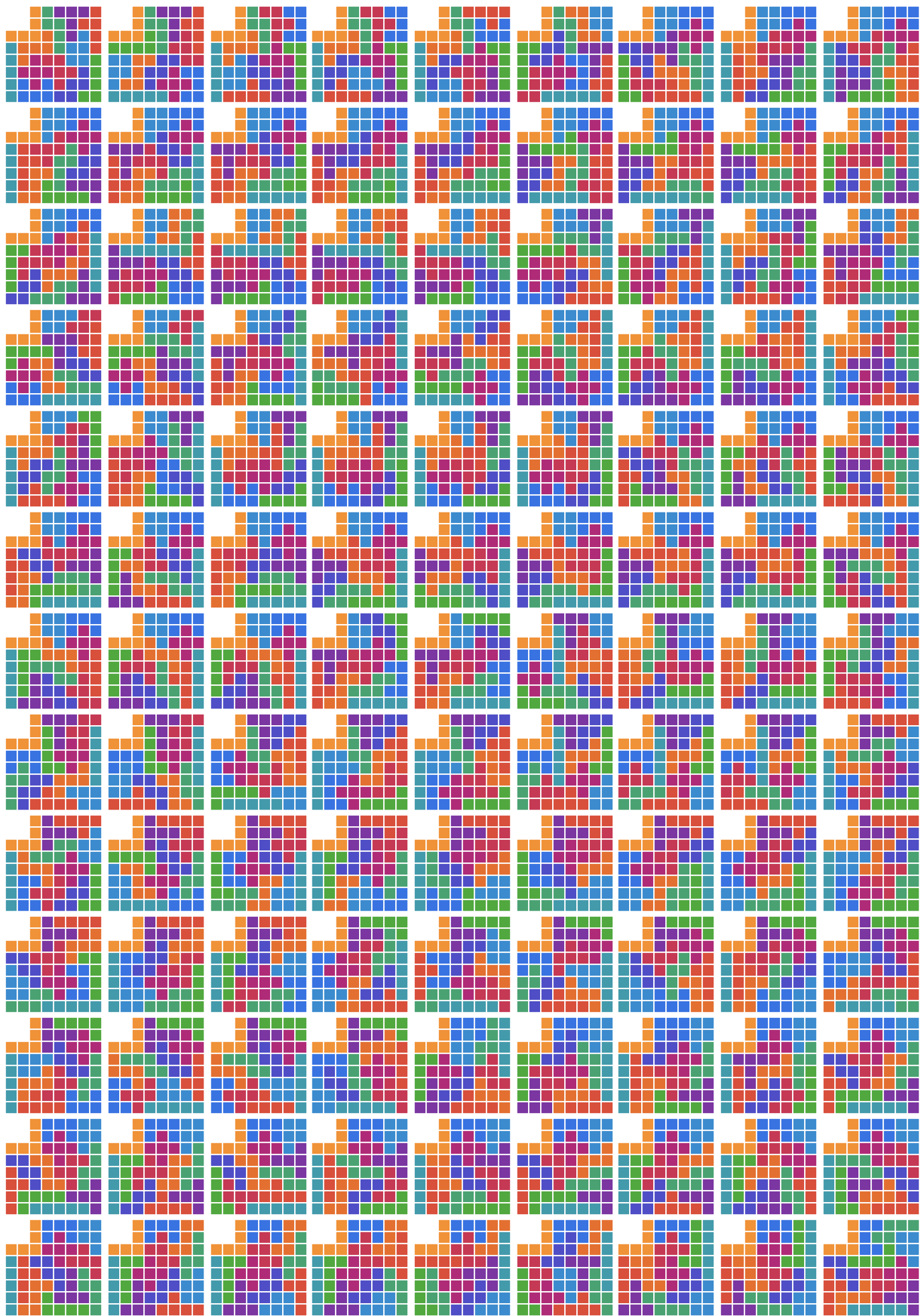


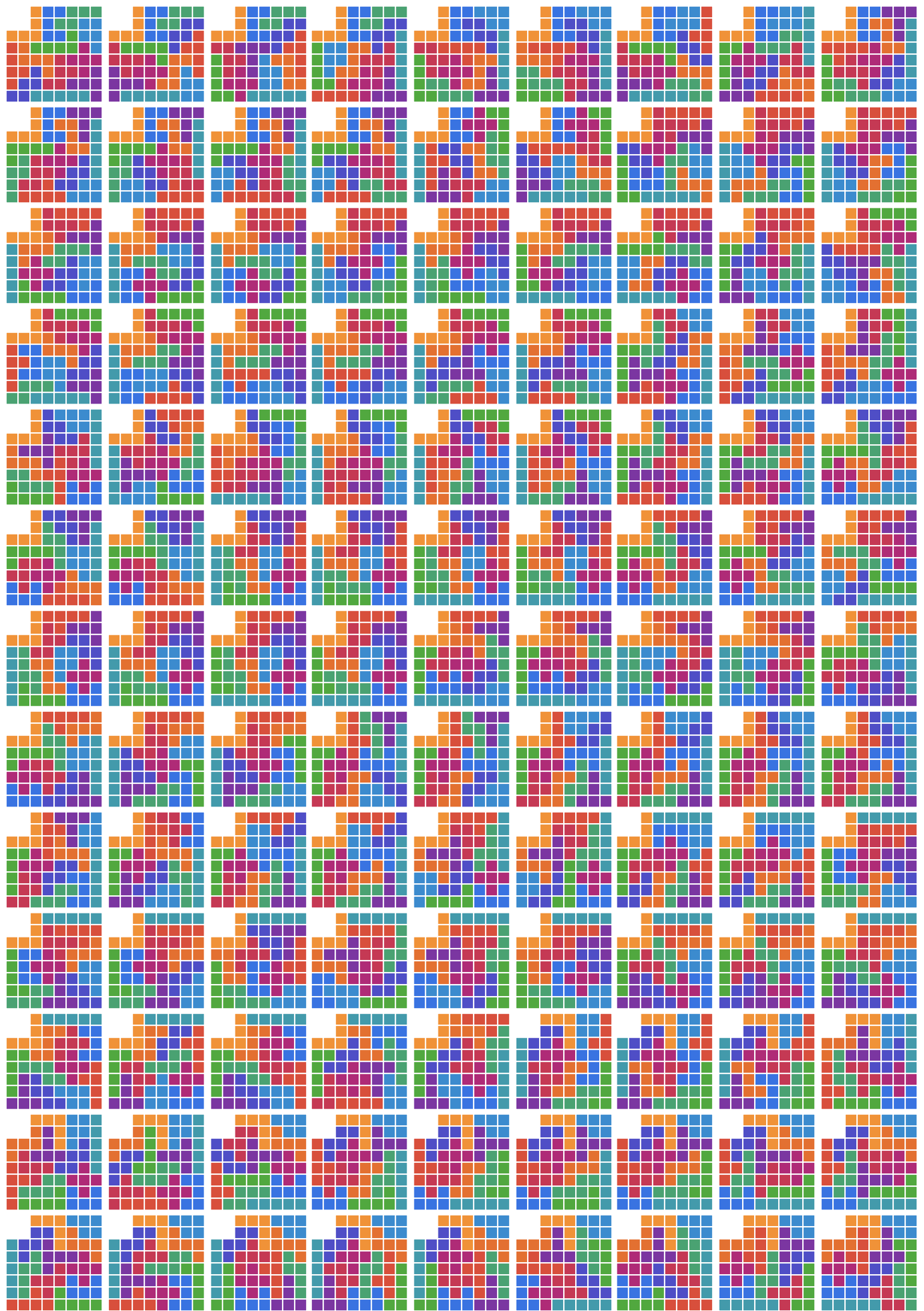


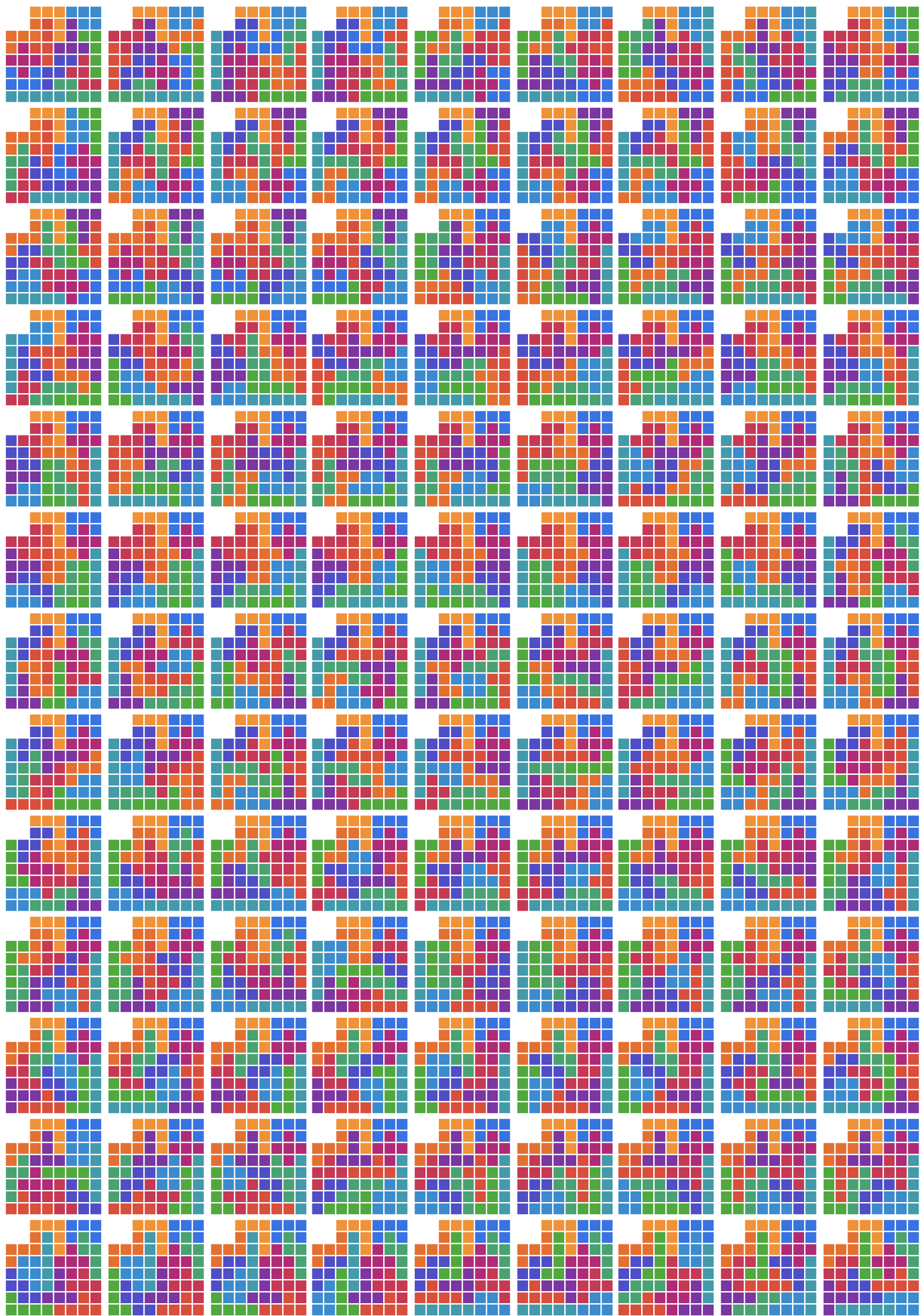


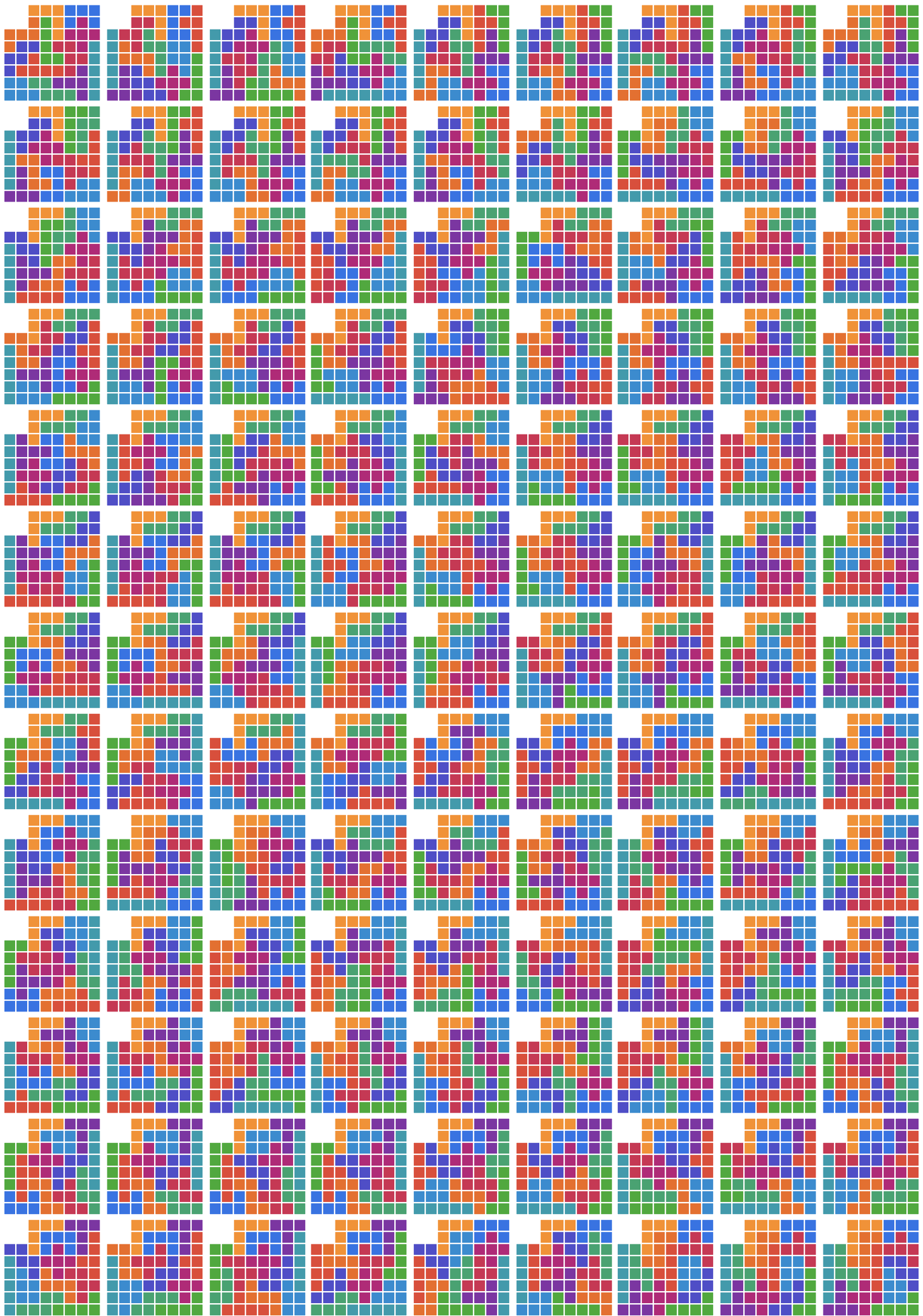


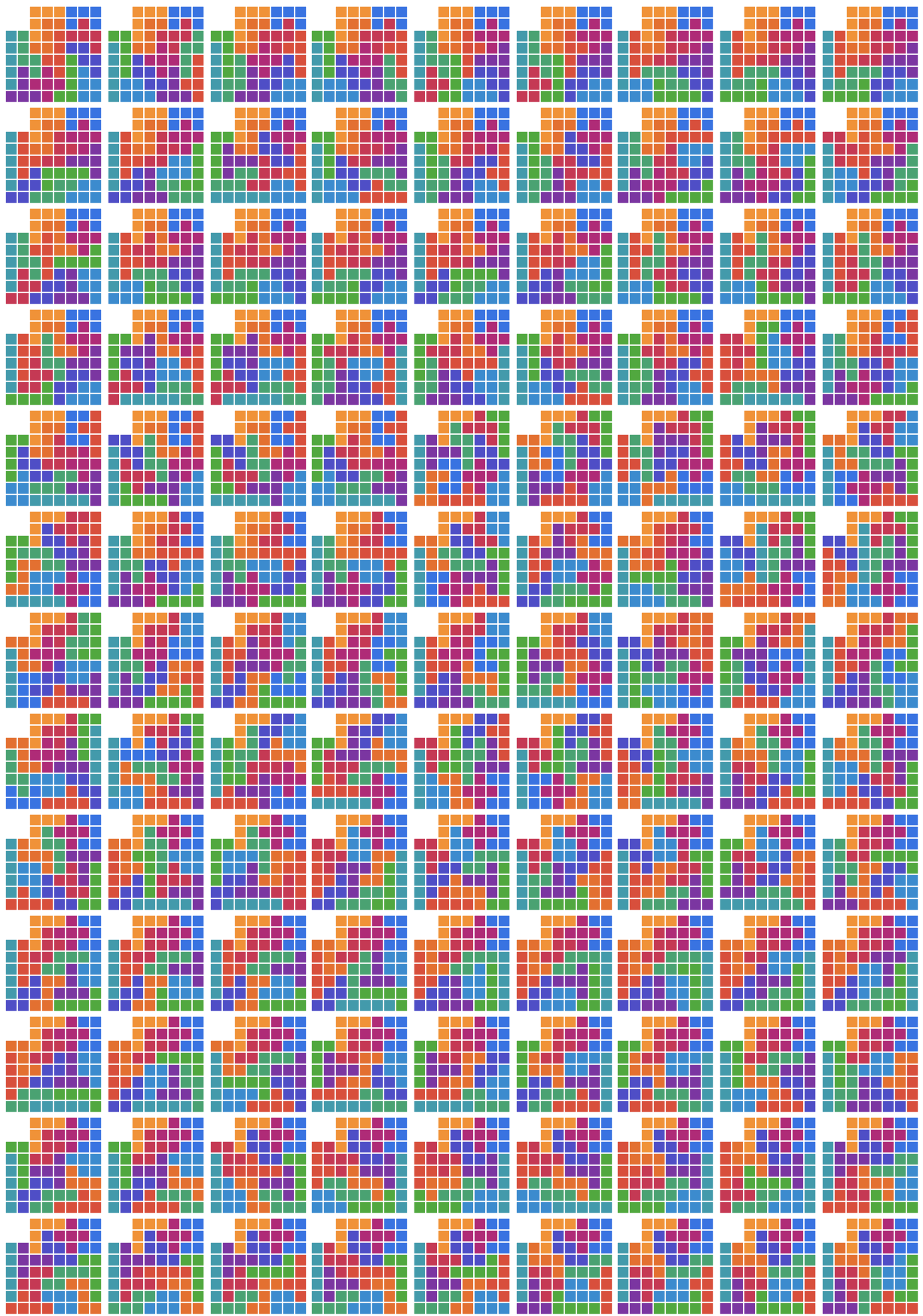


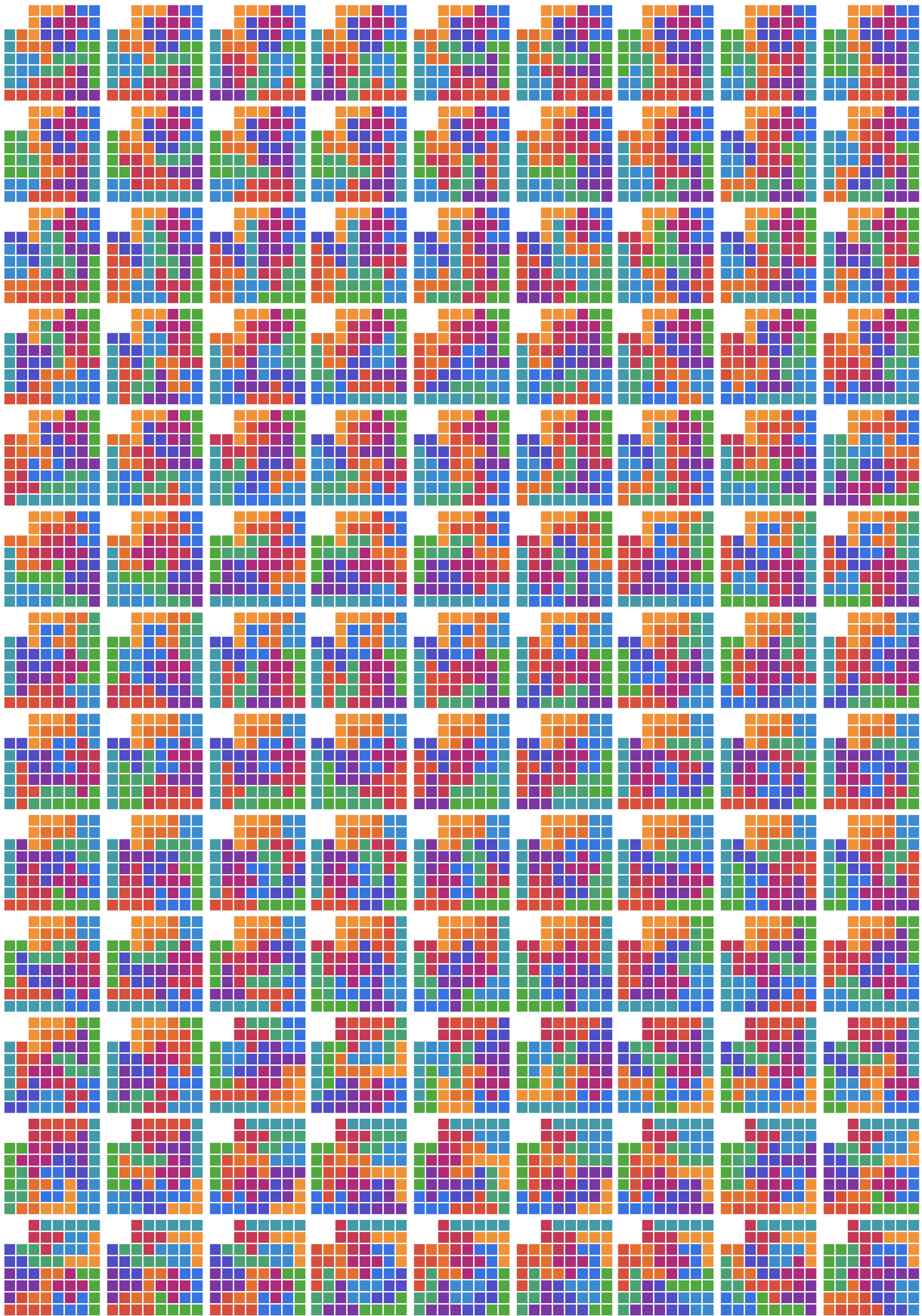


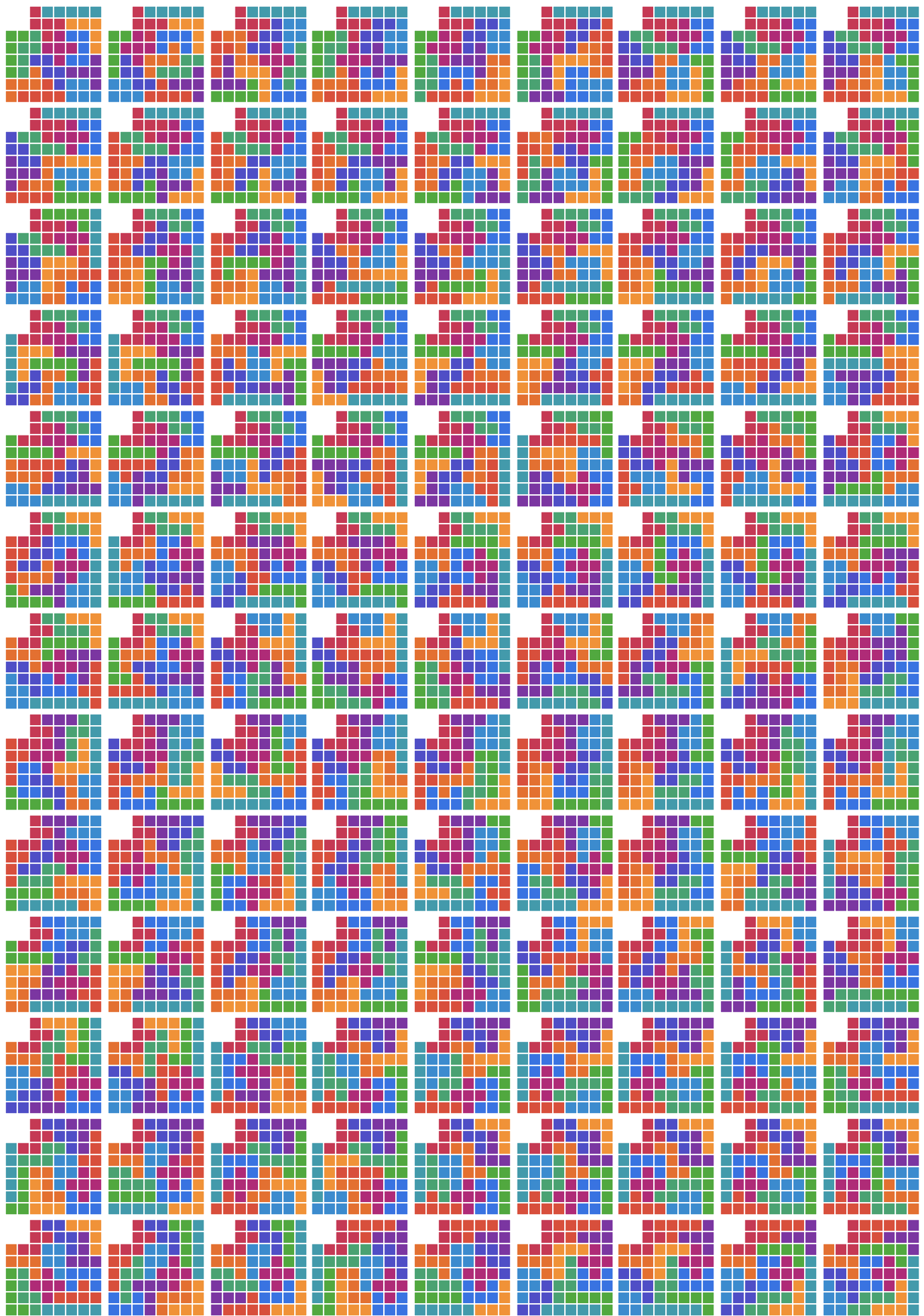


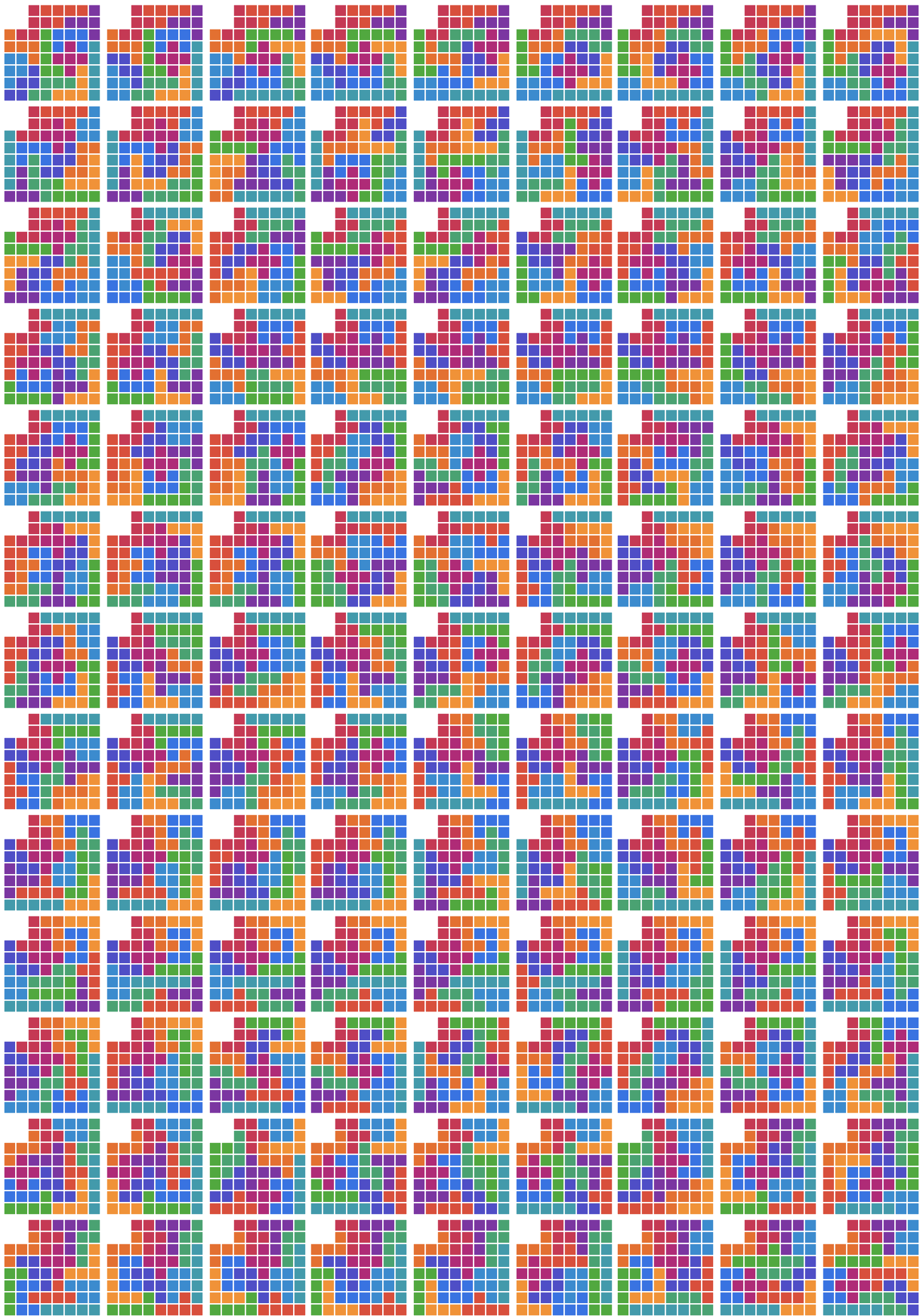


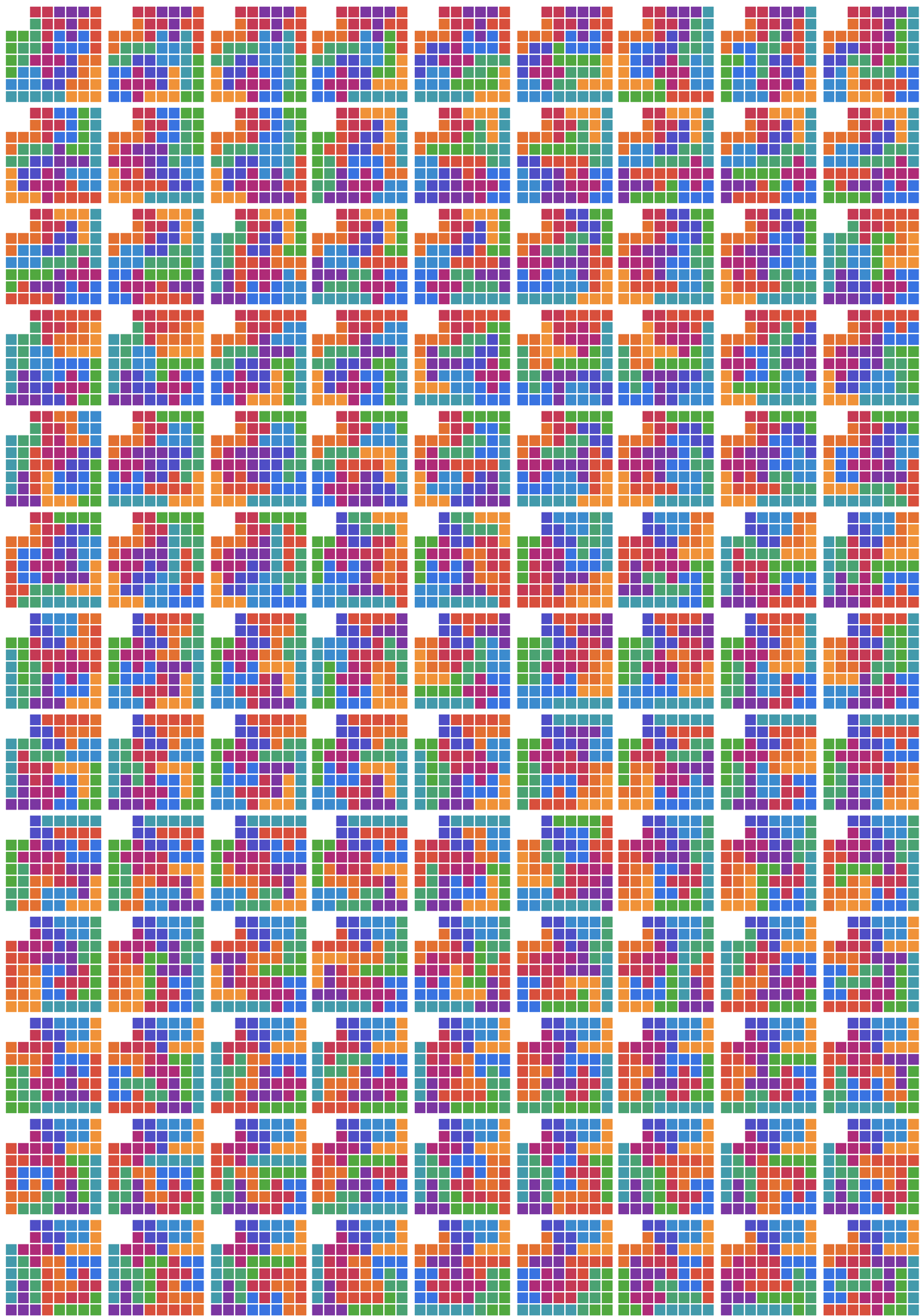


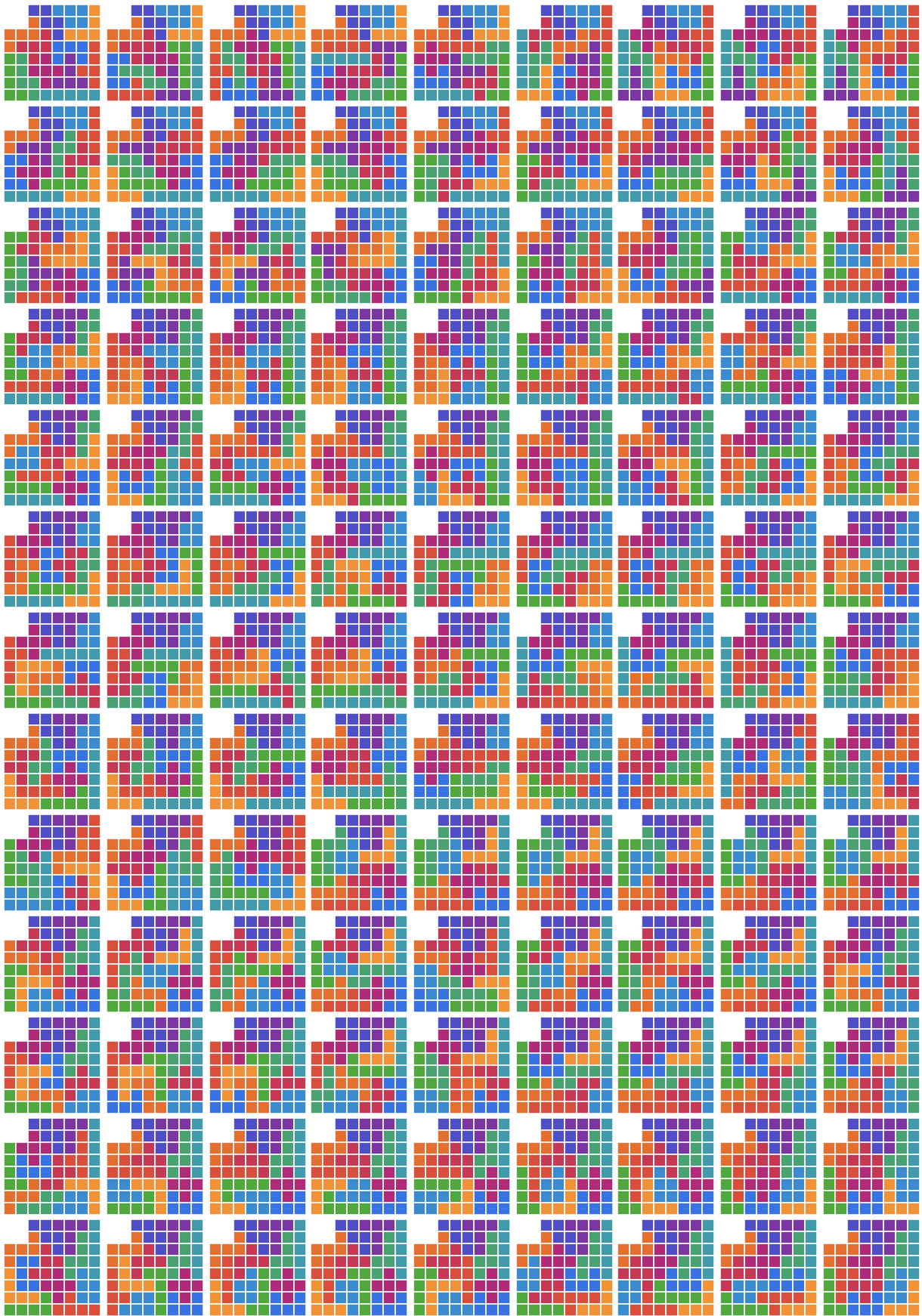


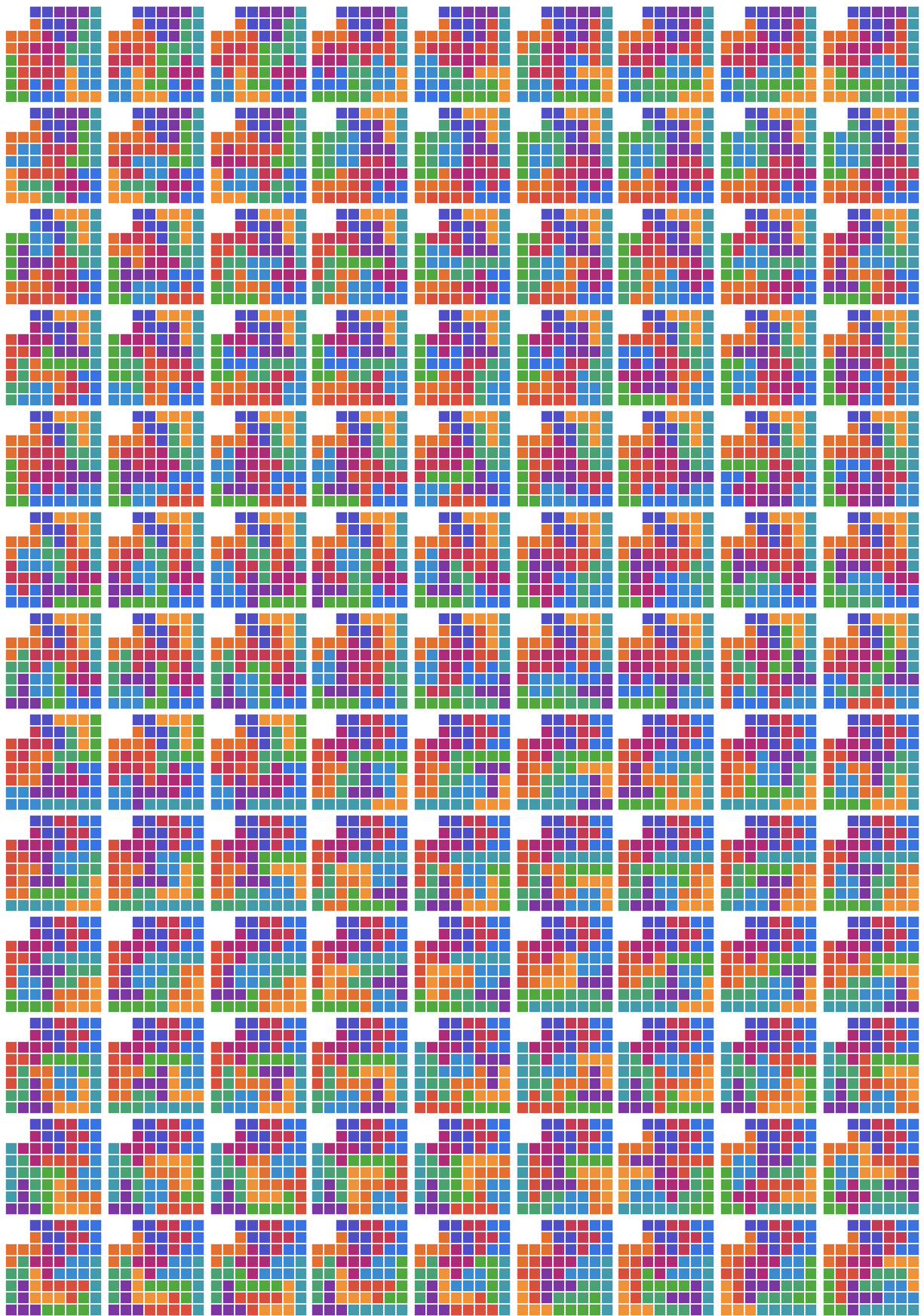


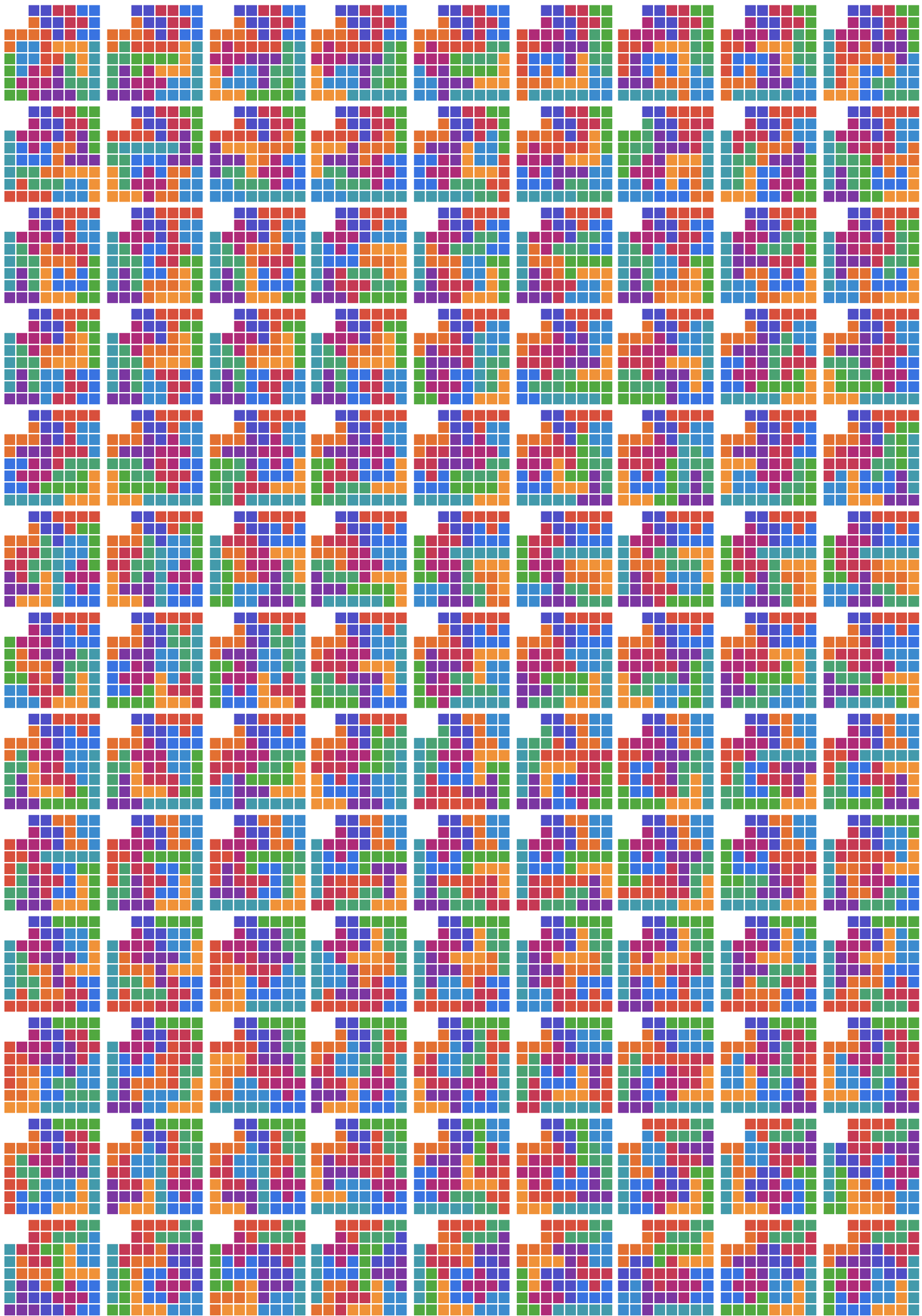


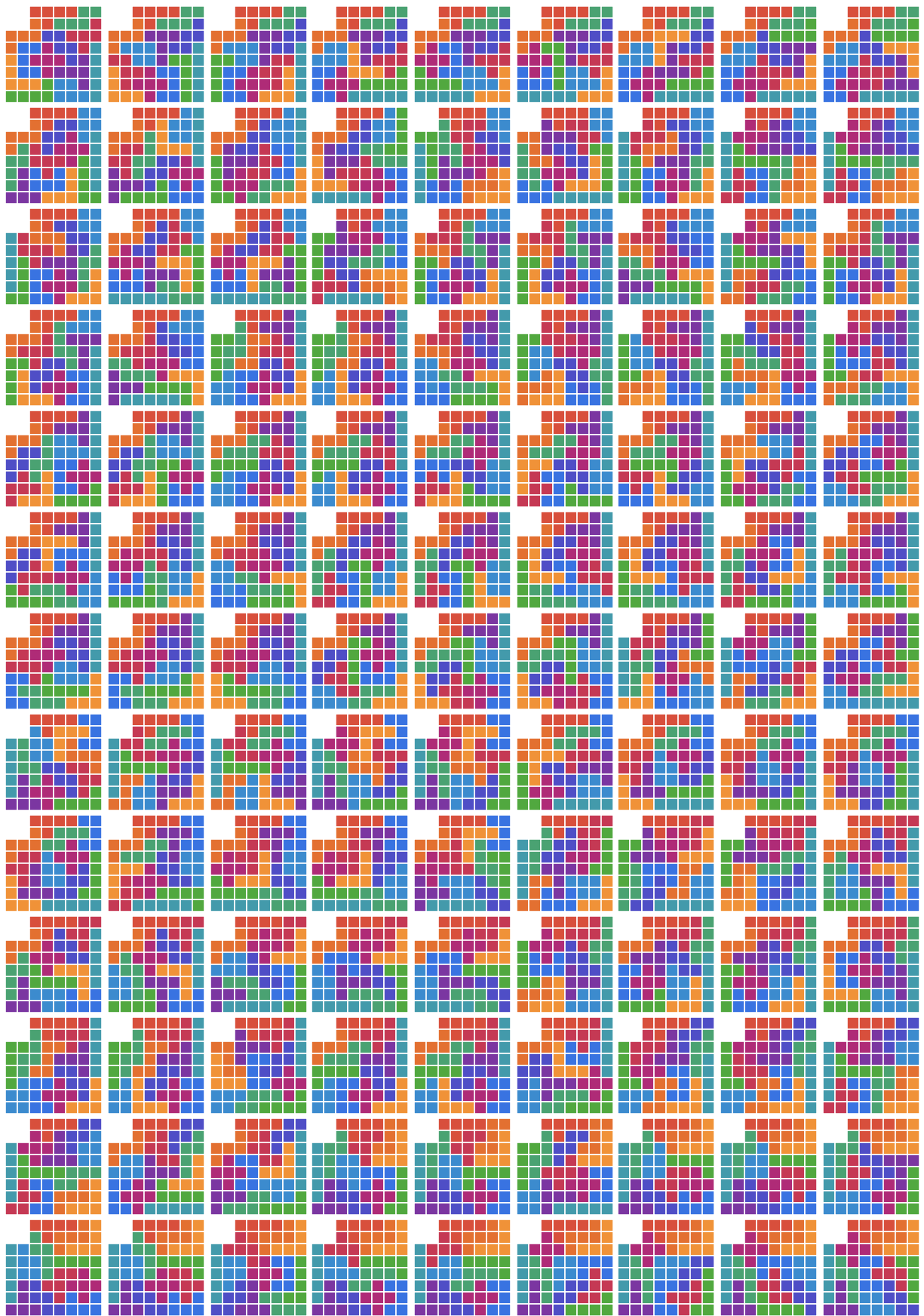


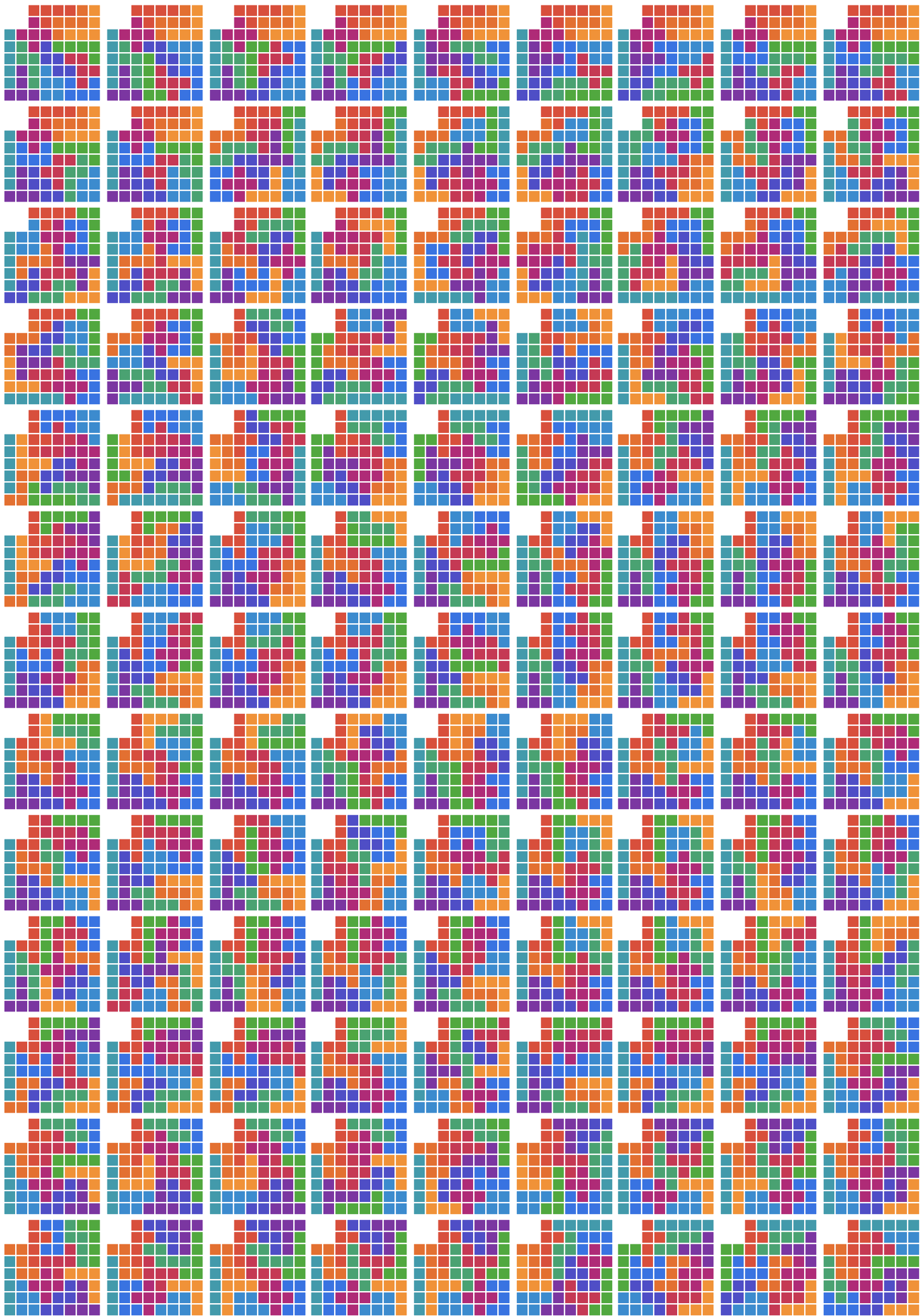


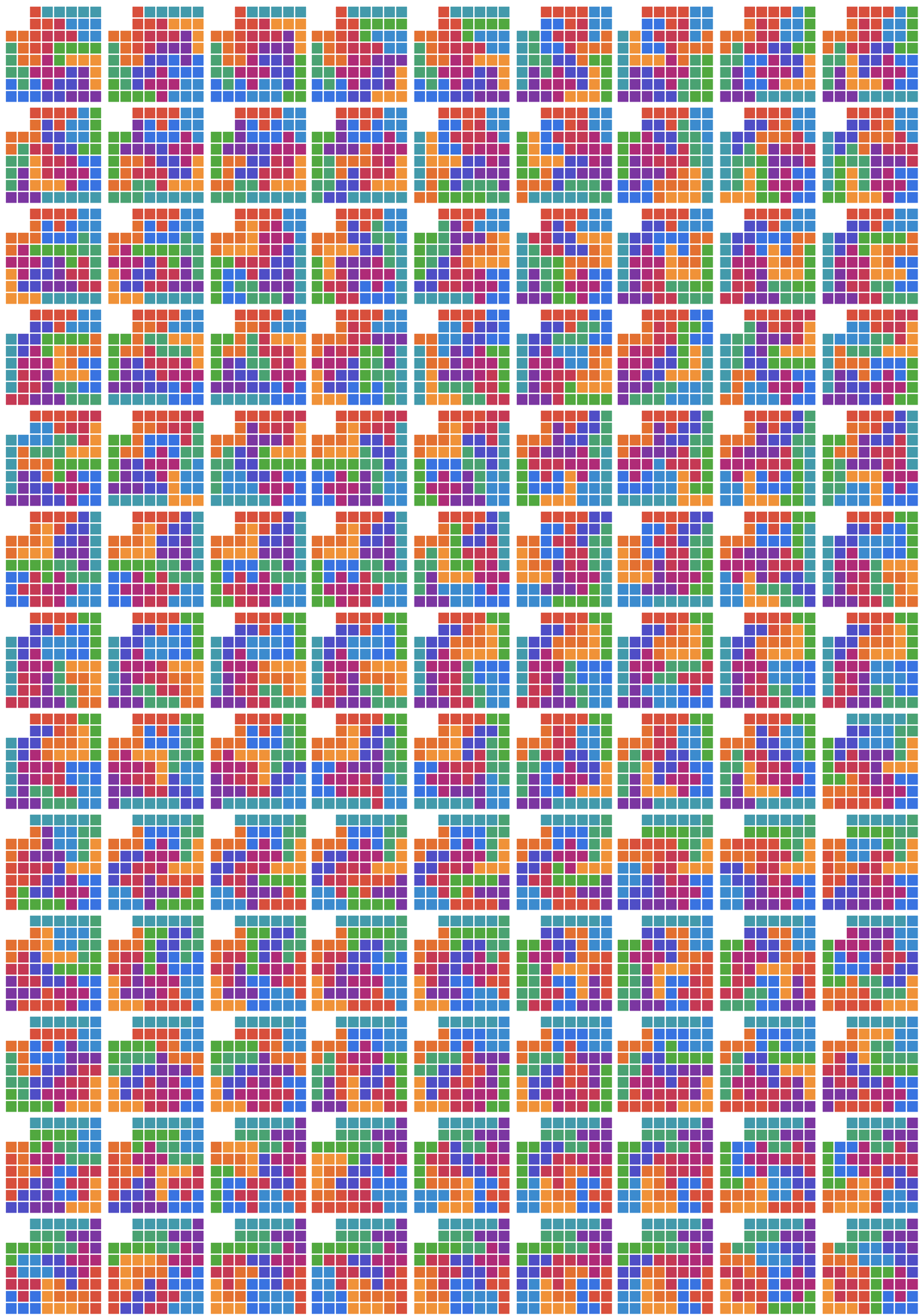


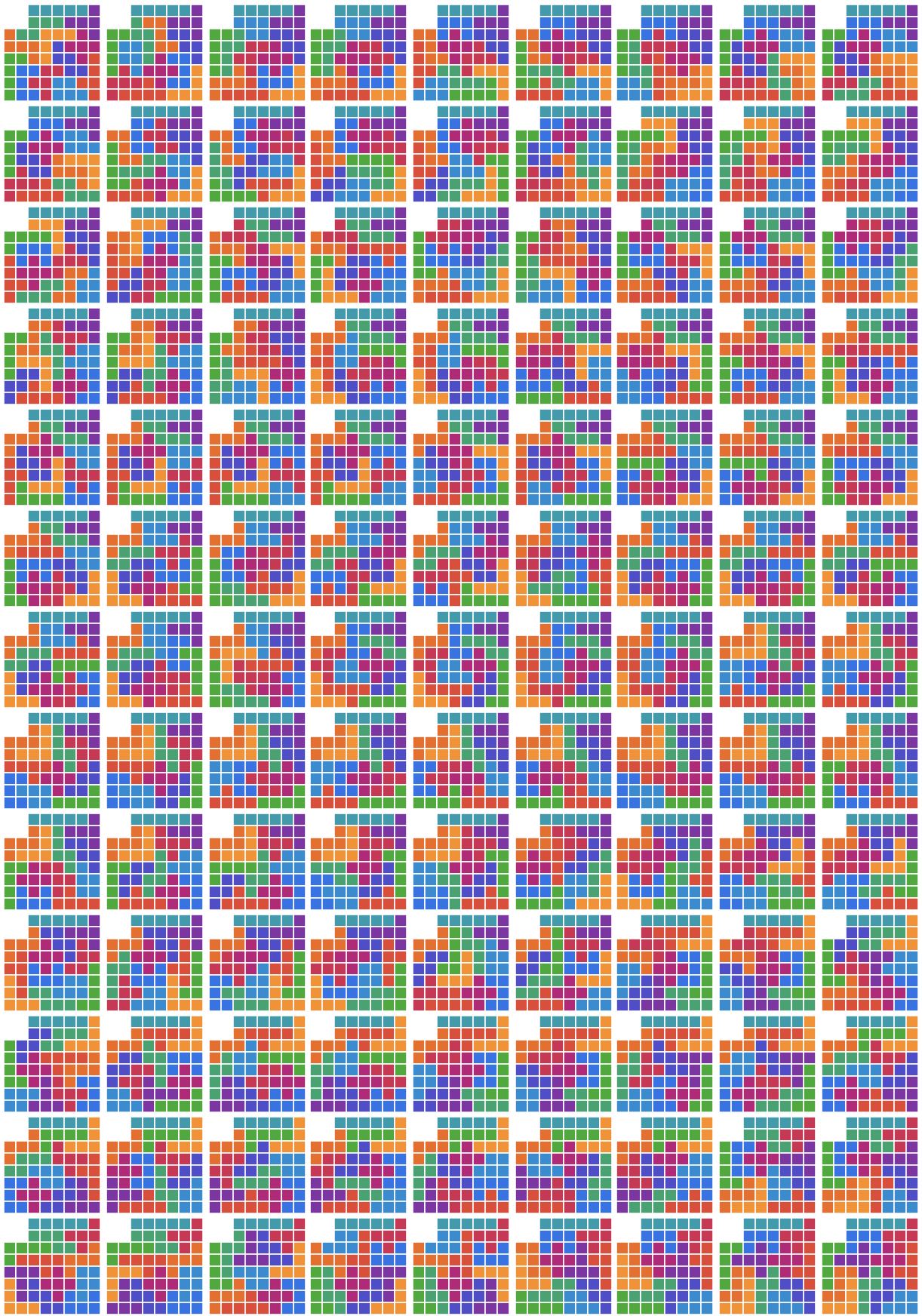


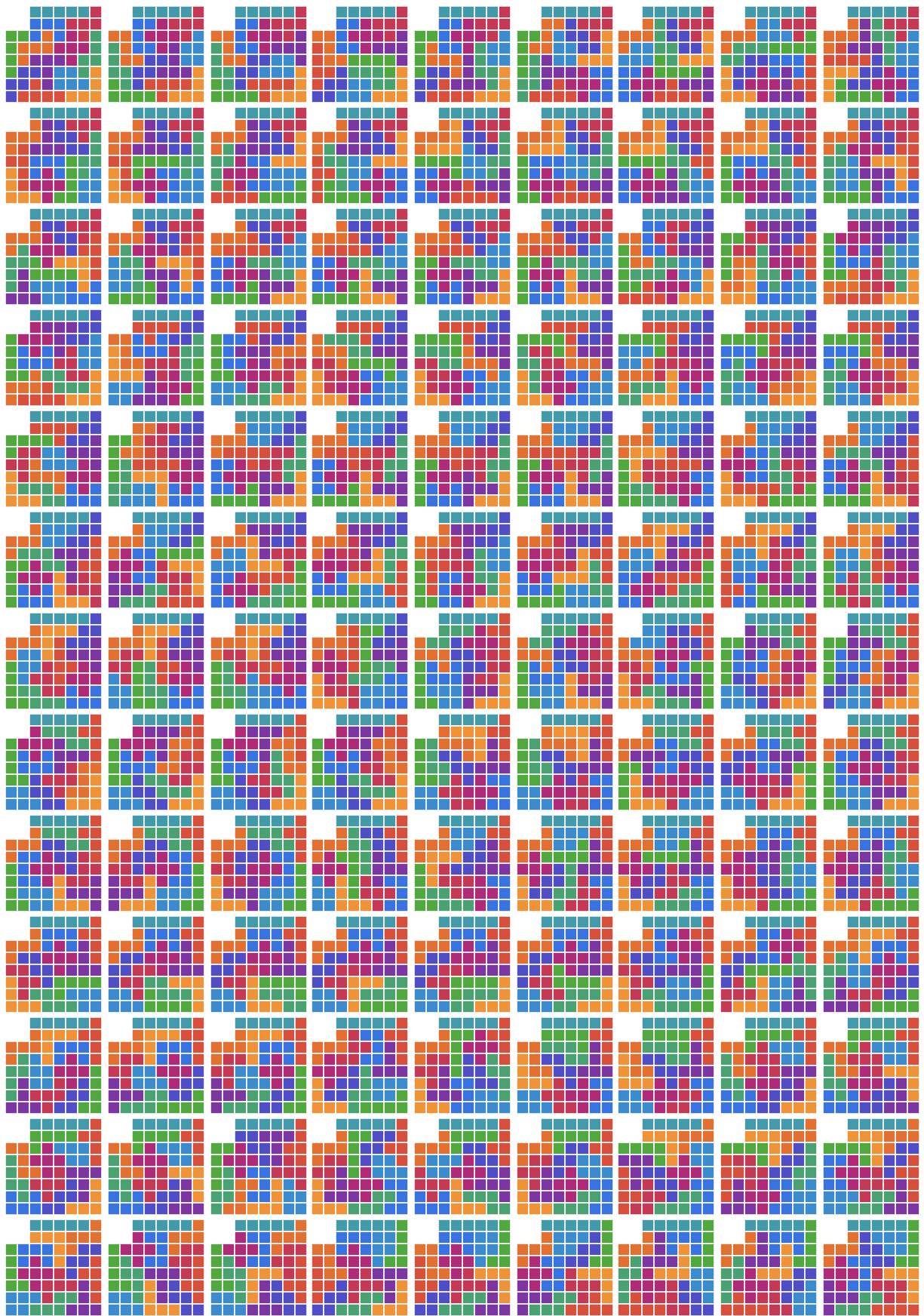


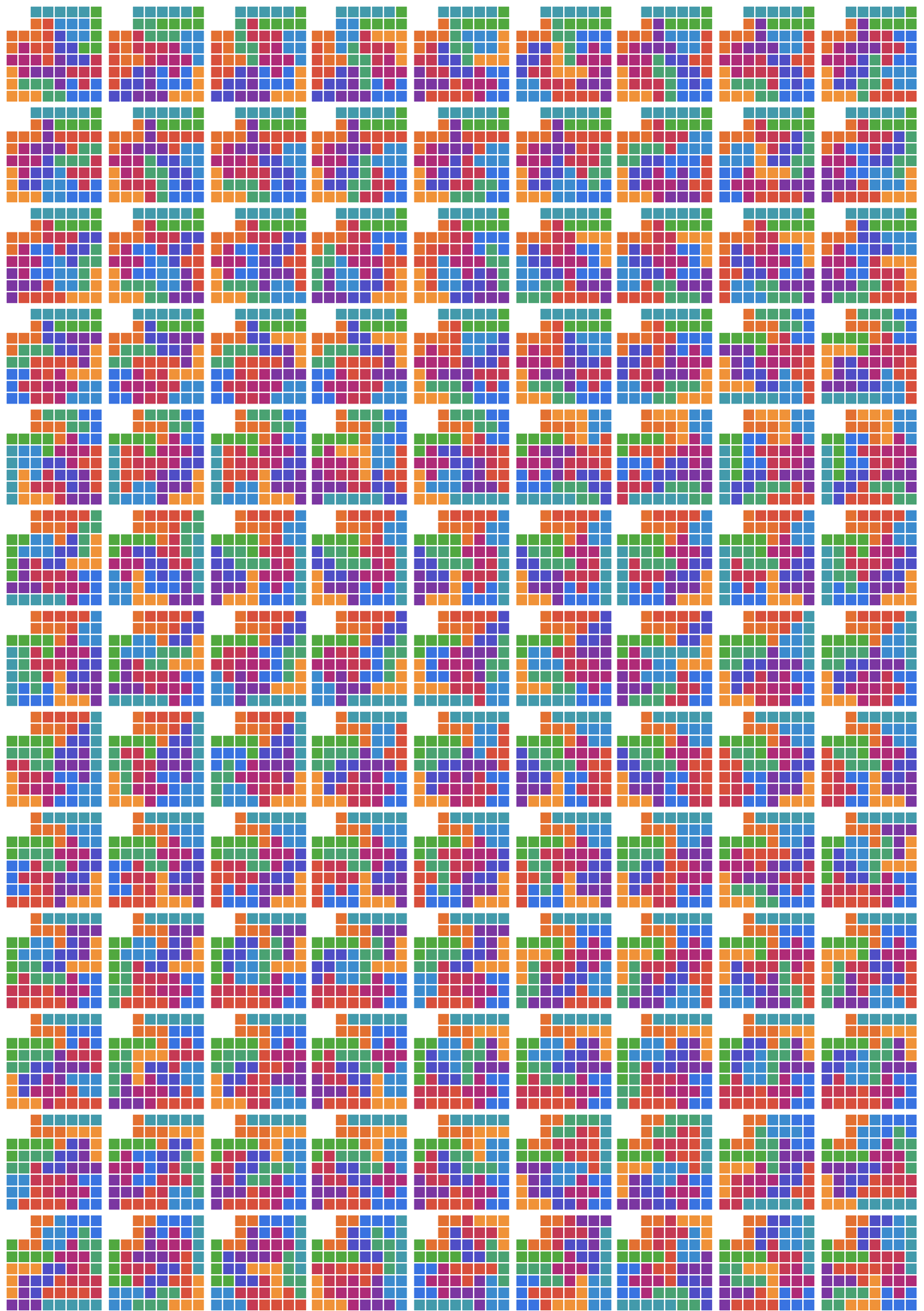


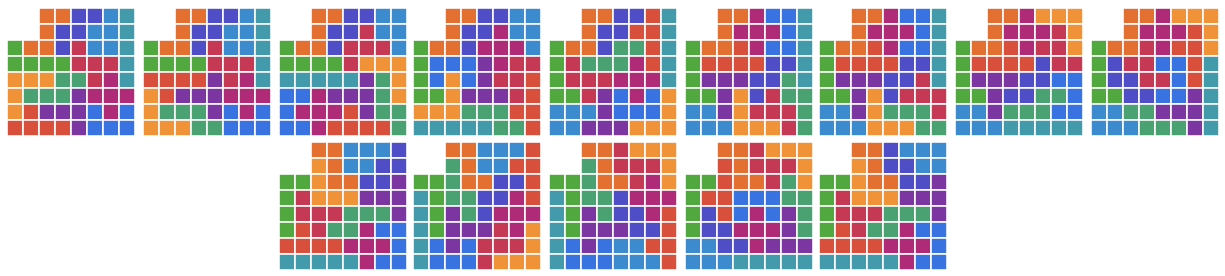






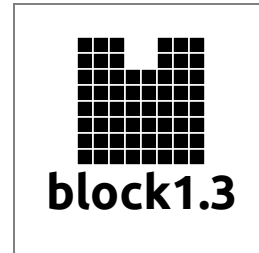
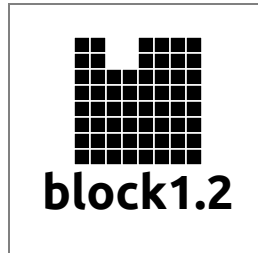
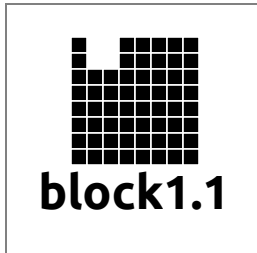


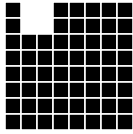




Four Square 2

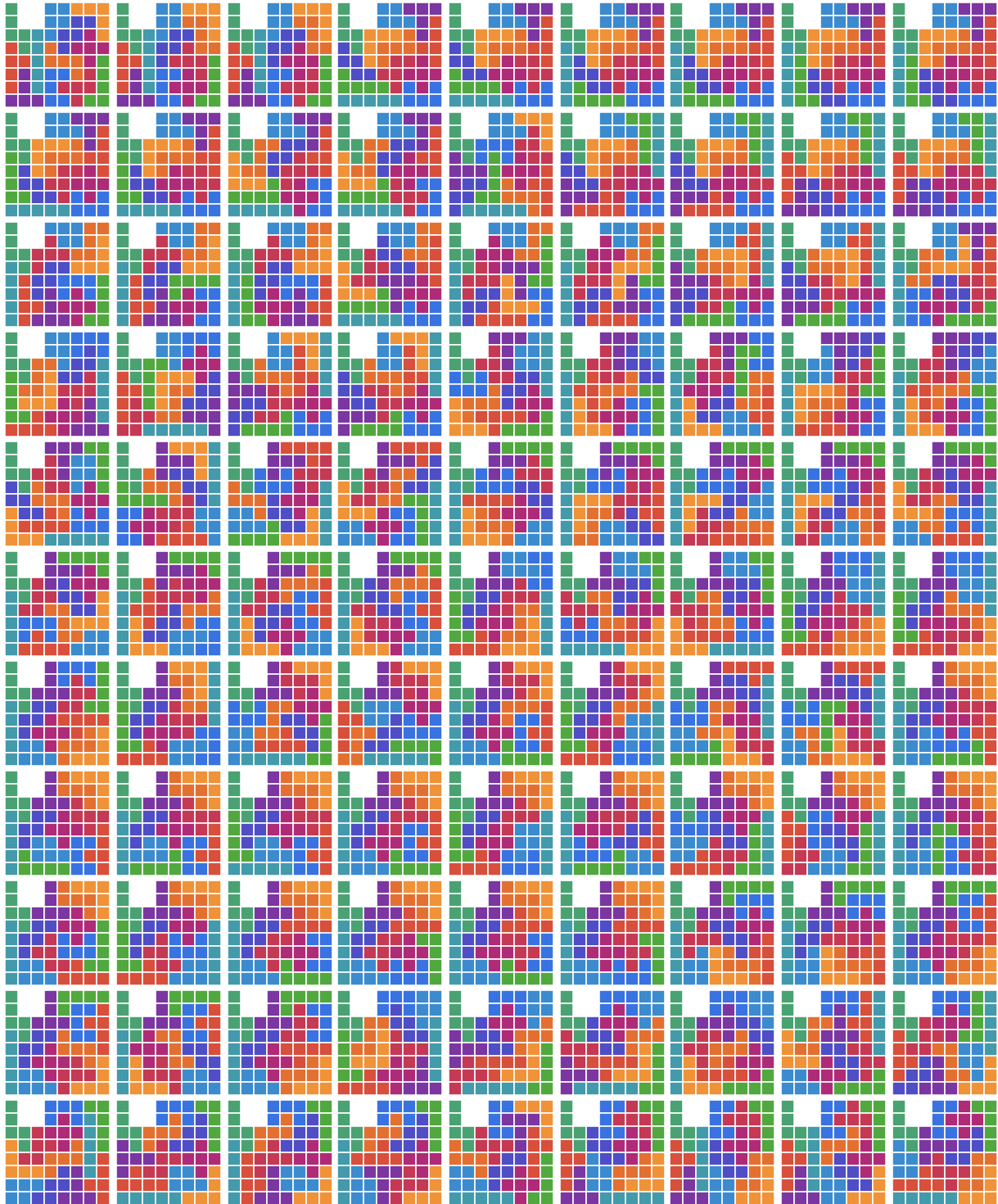
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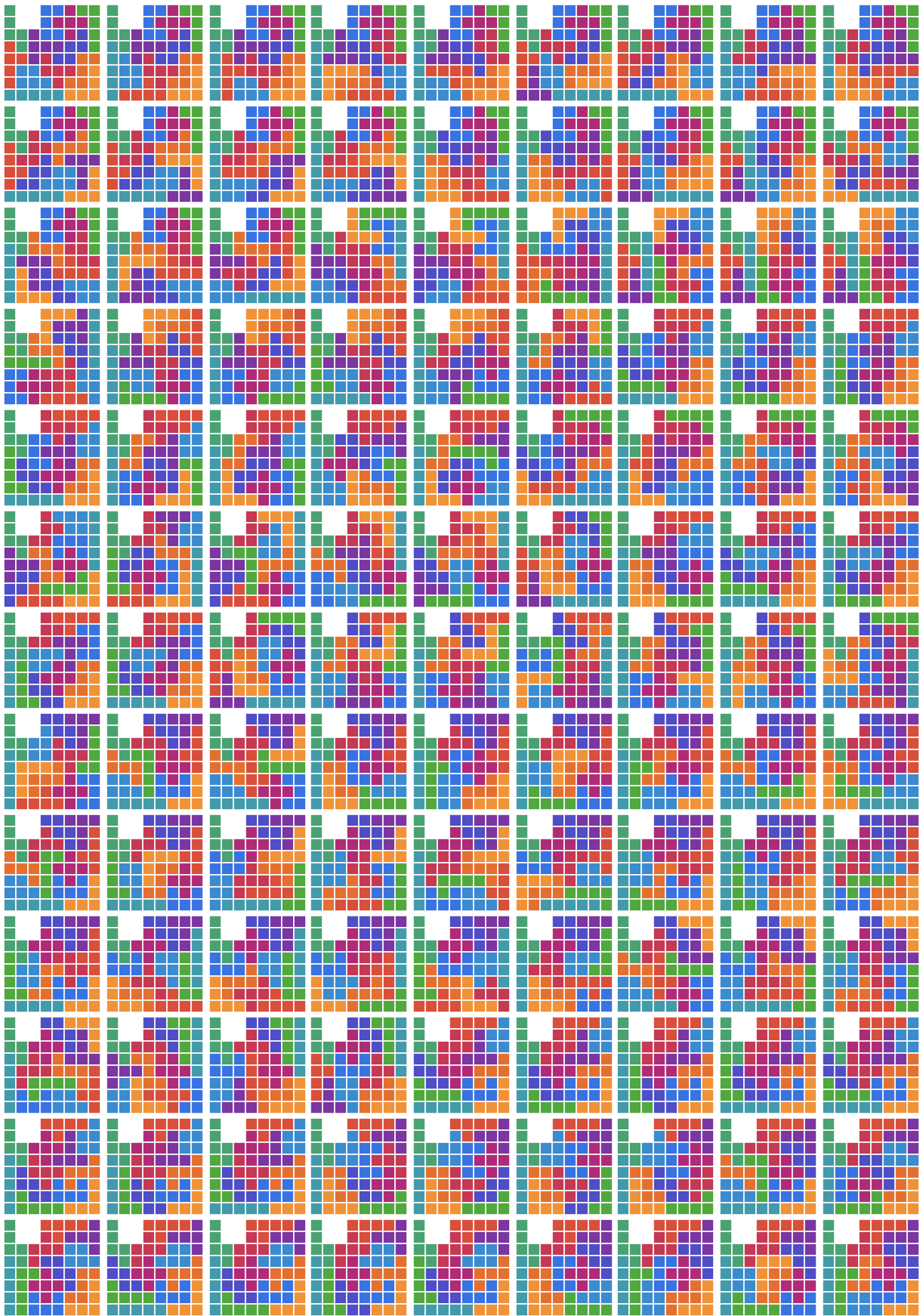


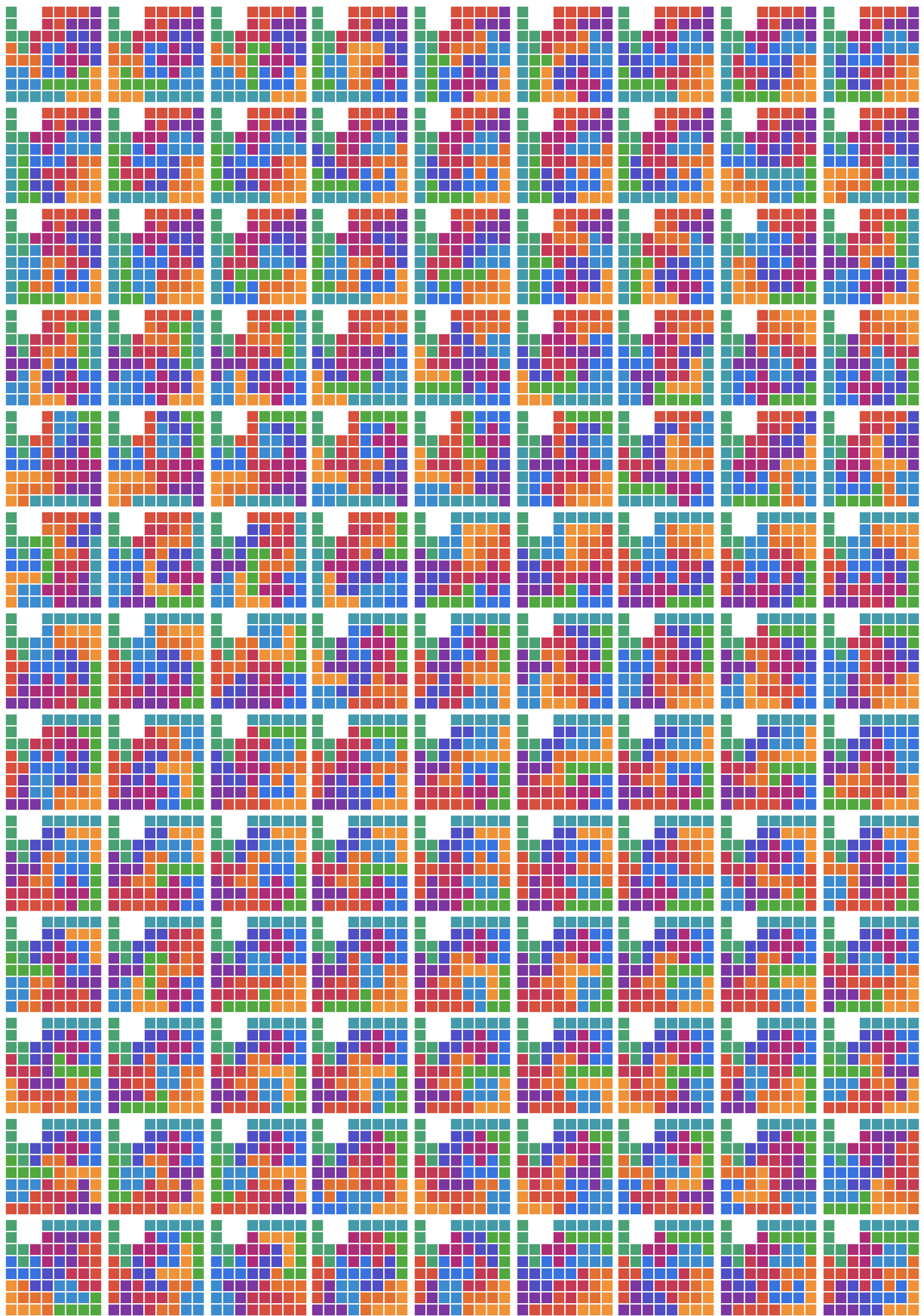


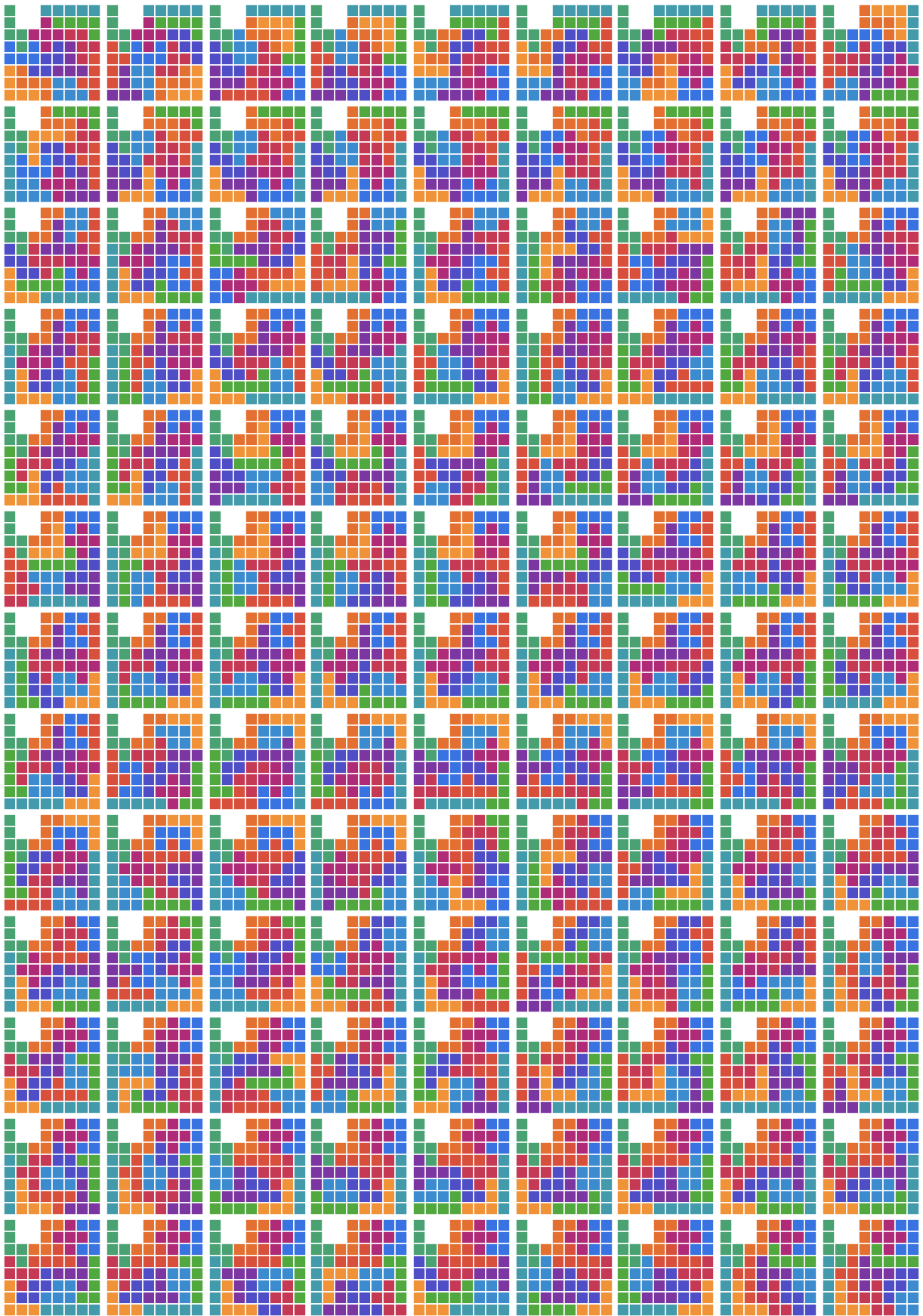
block1.1

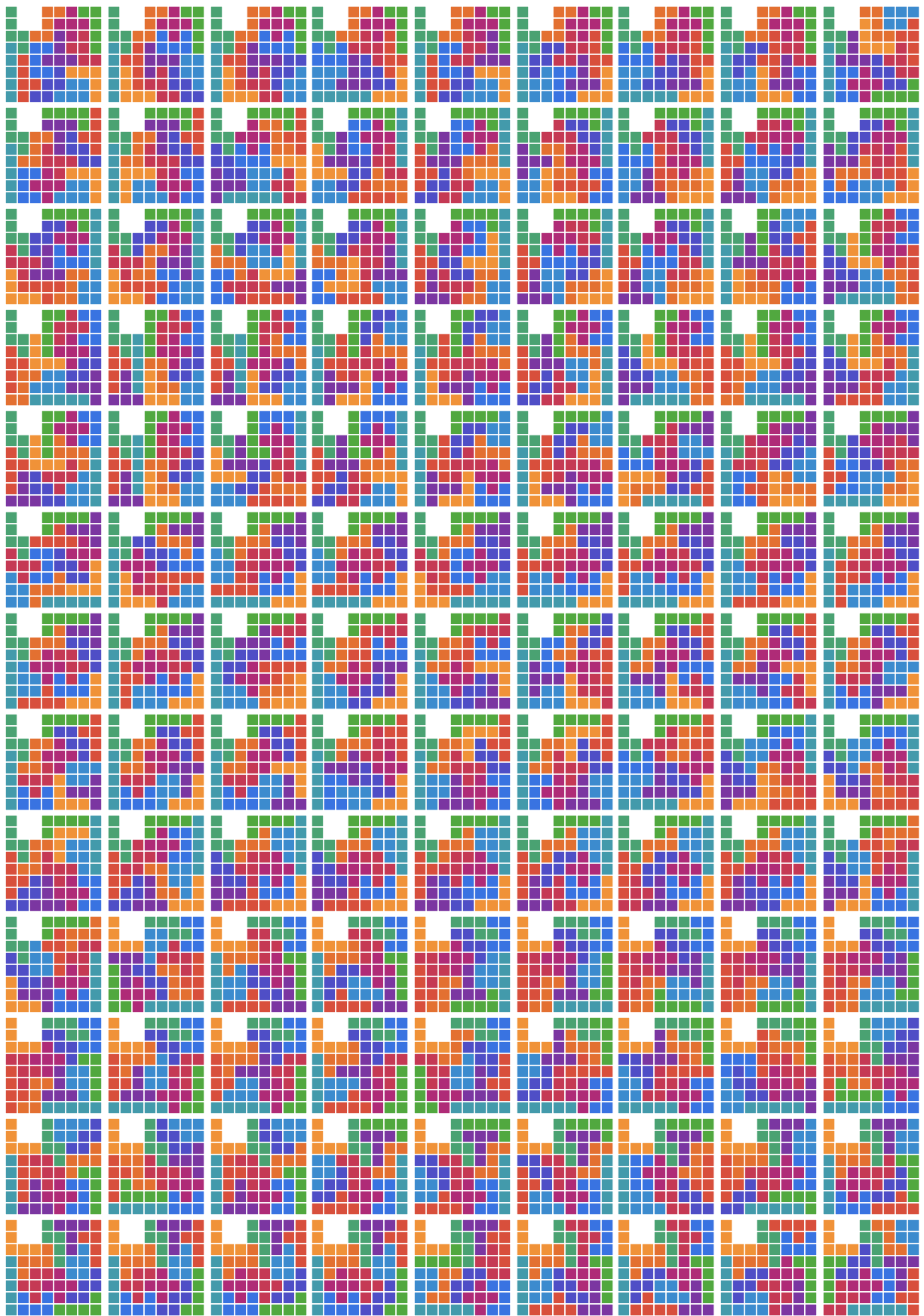
3,207 Solutions

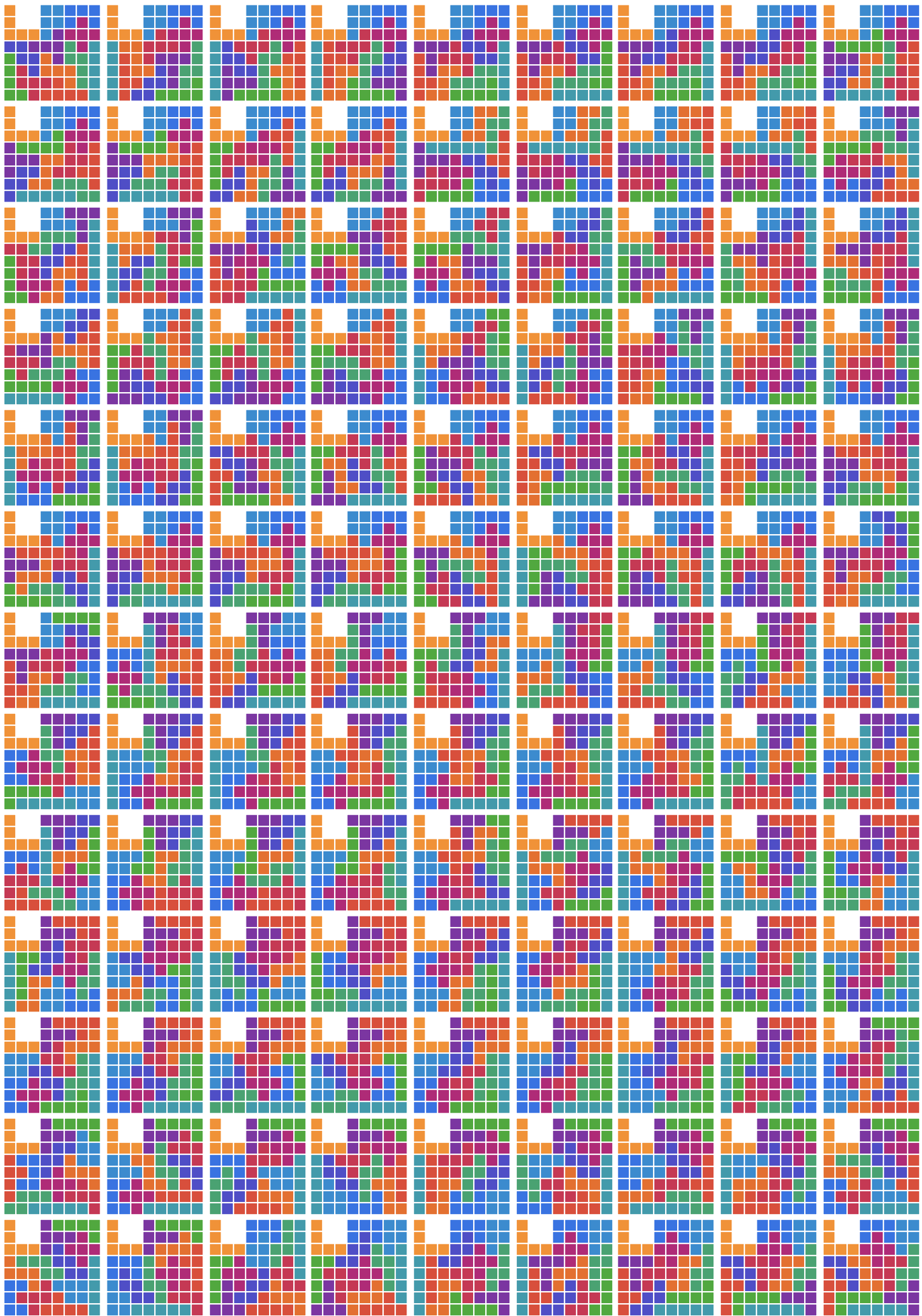


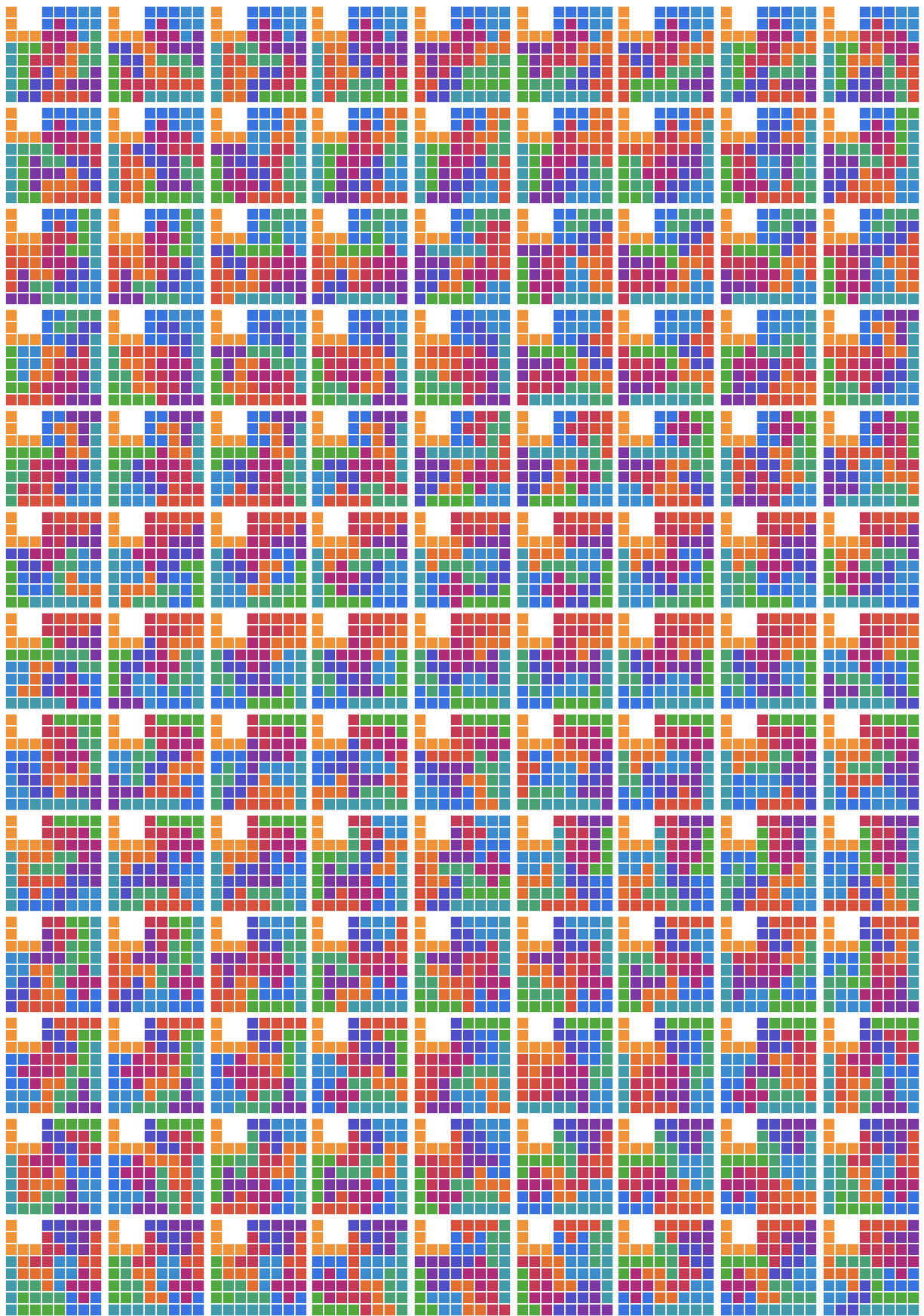


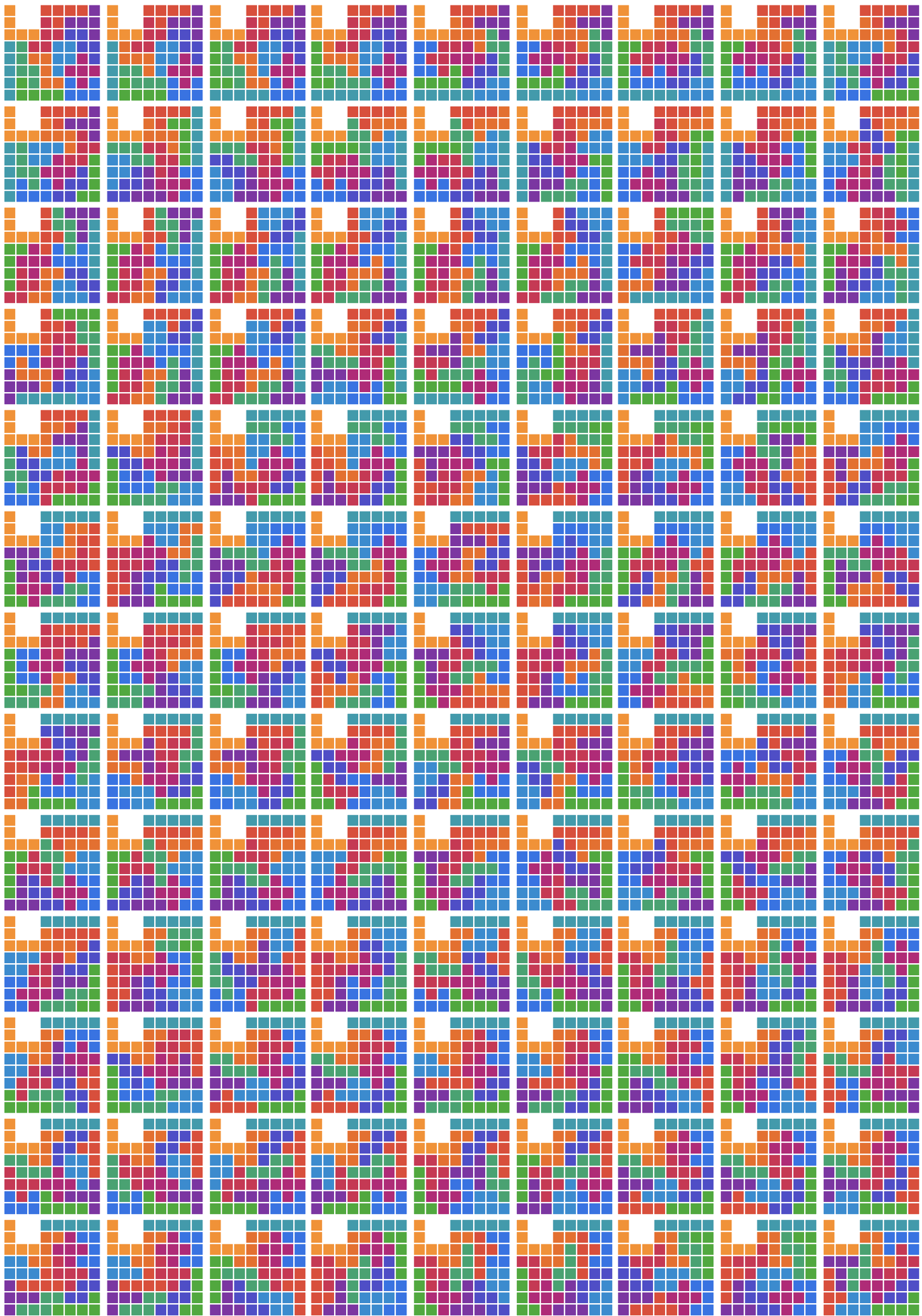


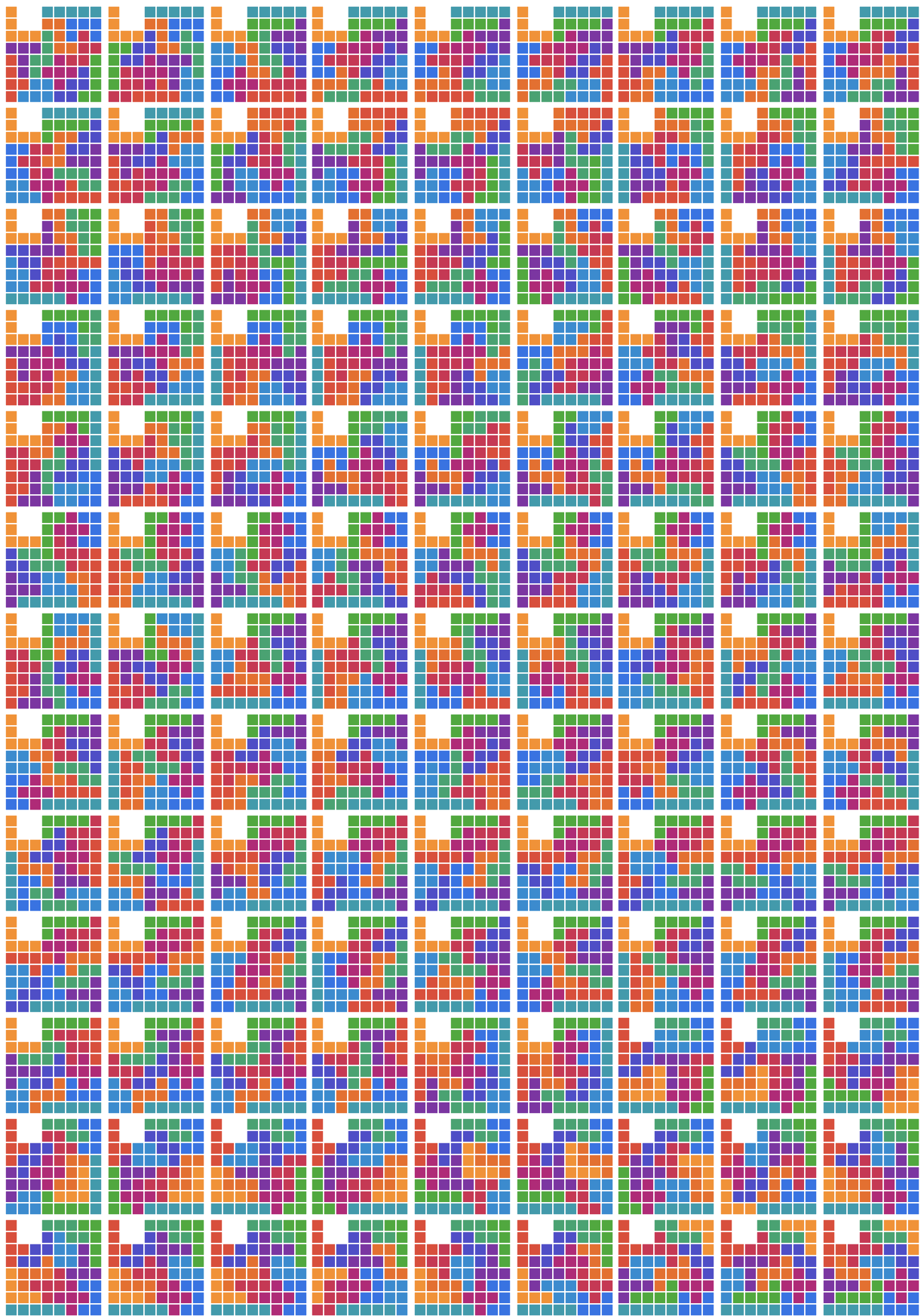


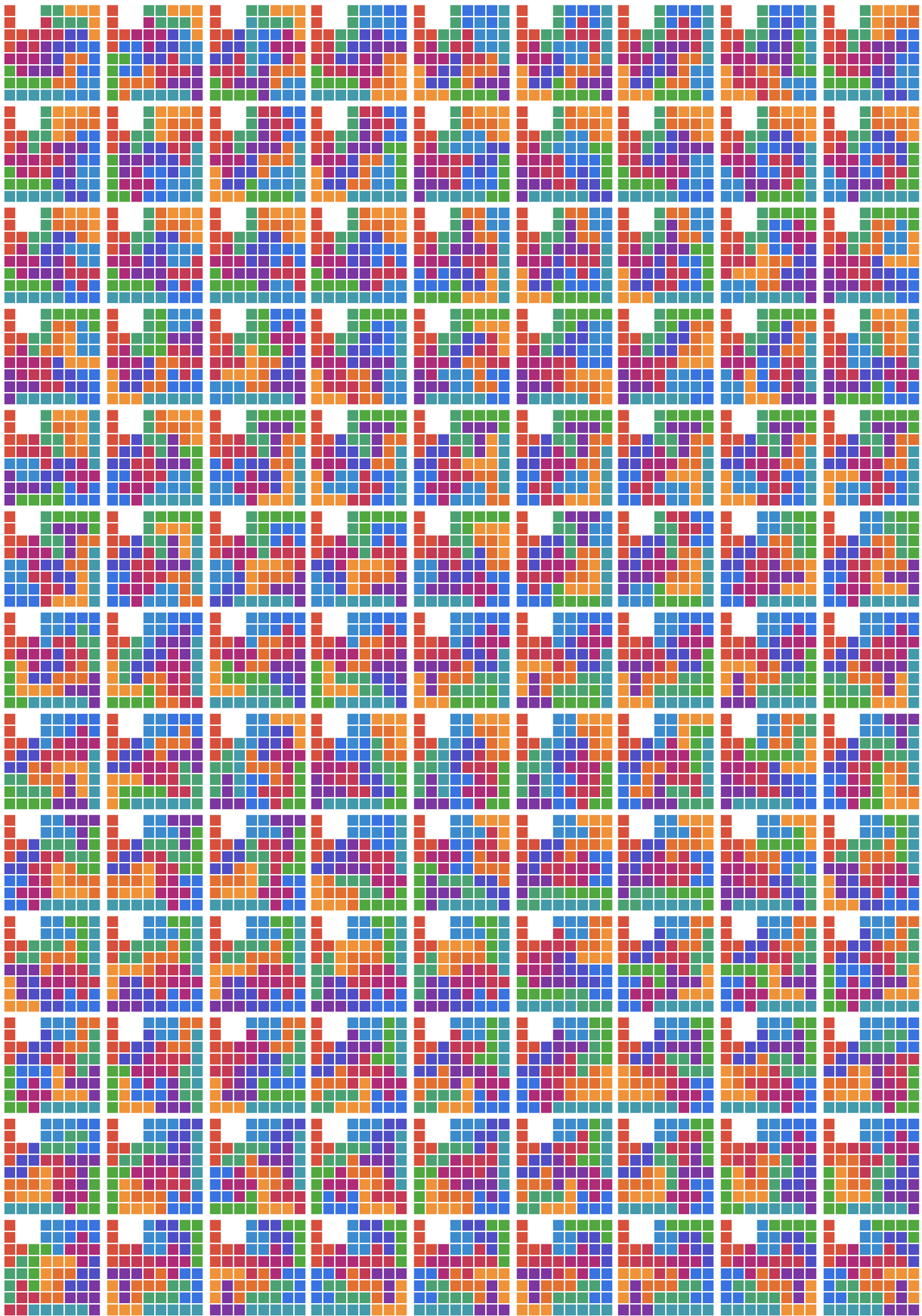


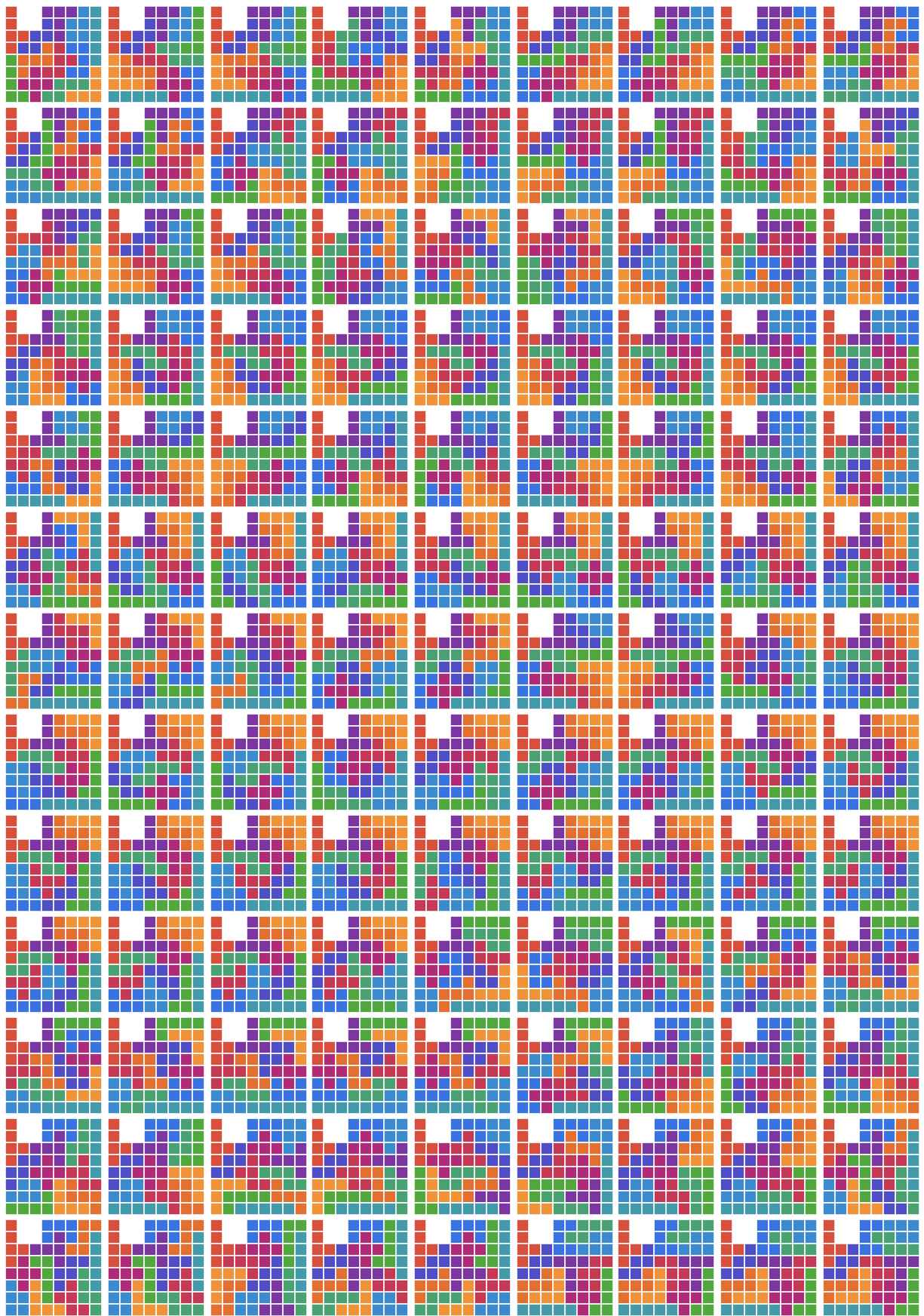


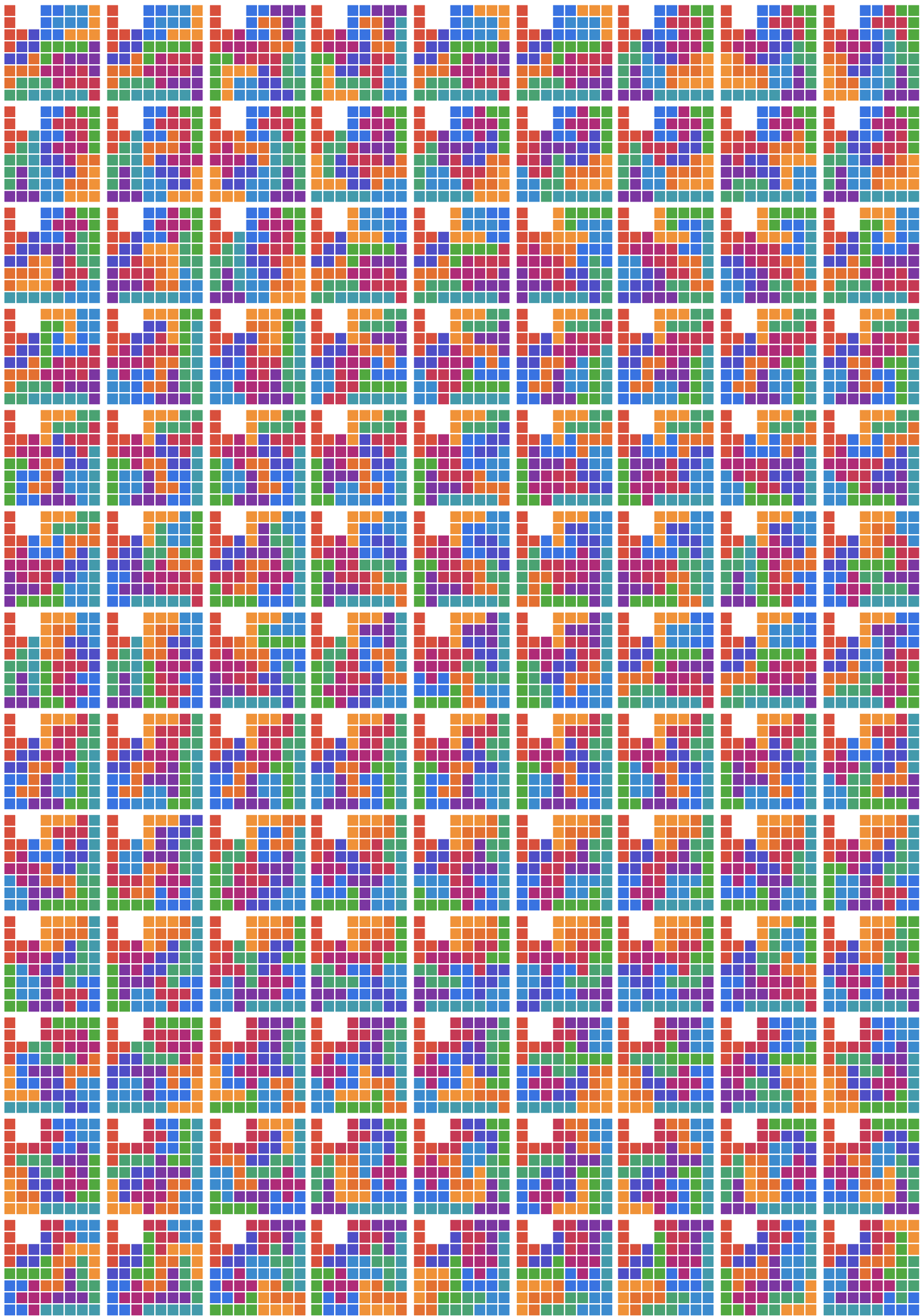


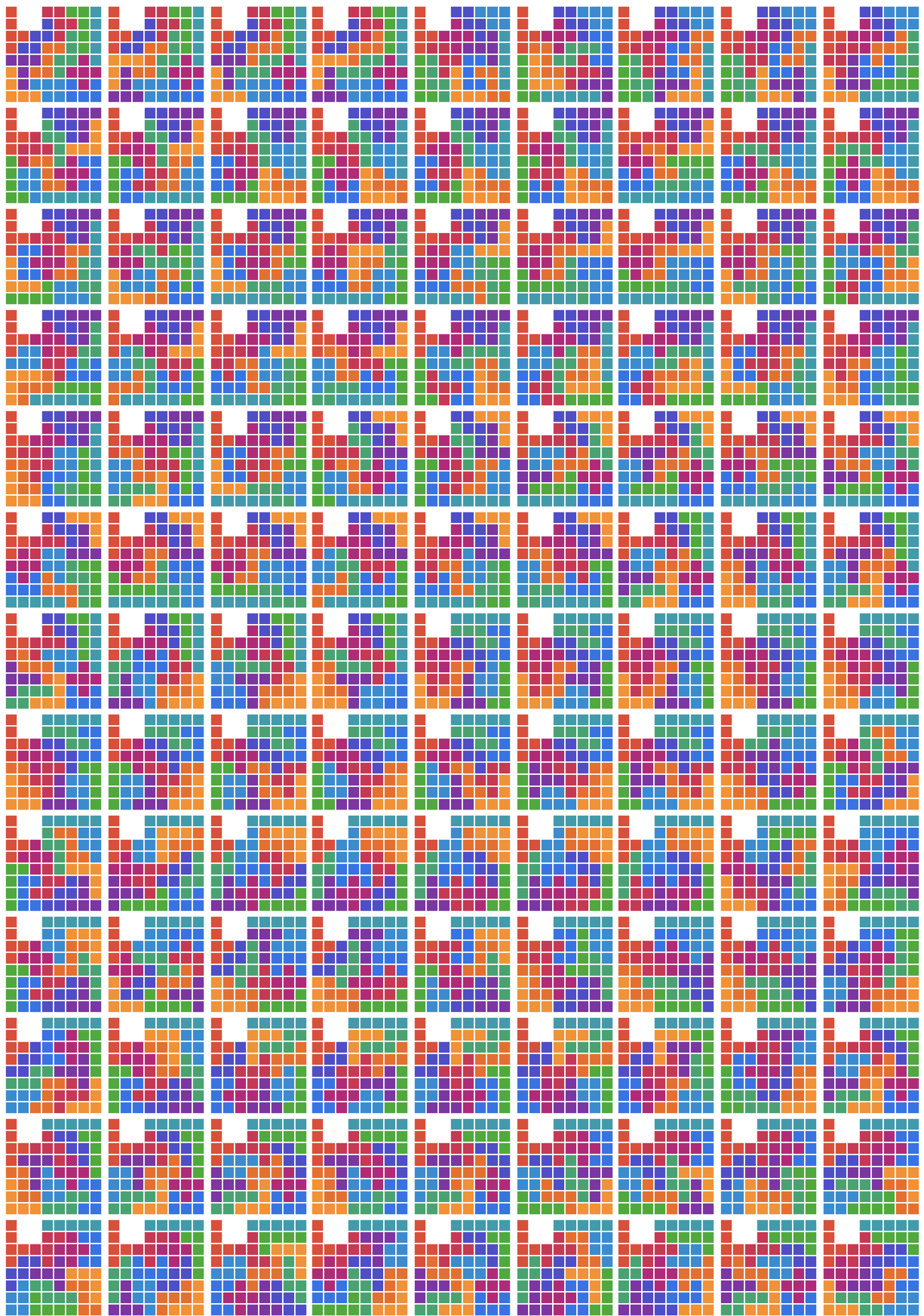


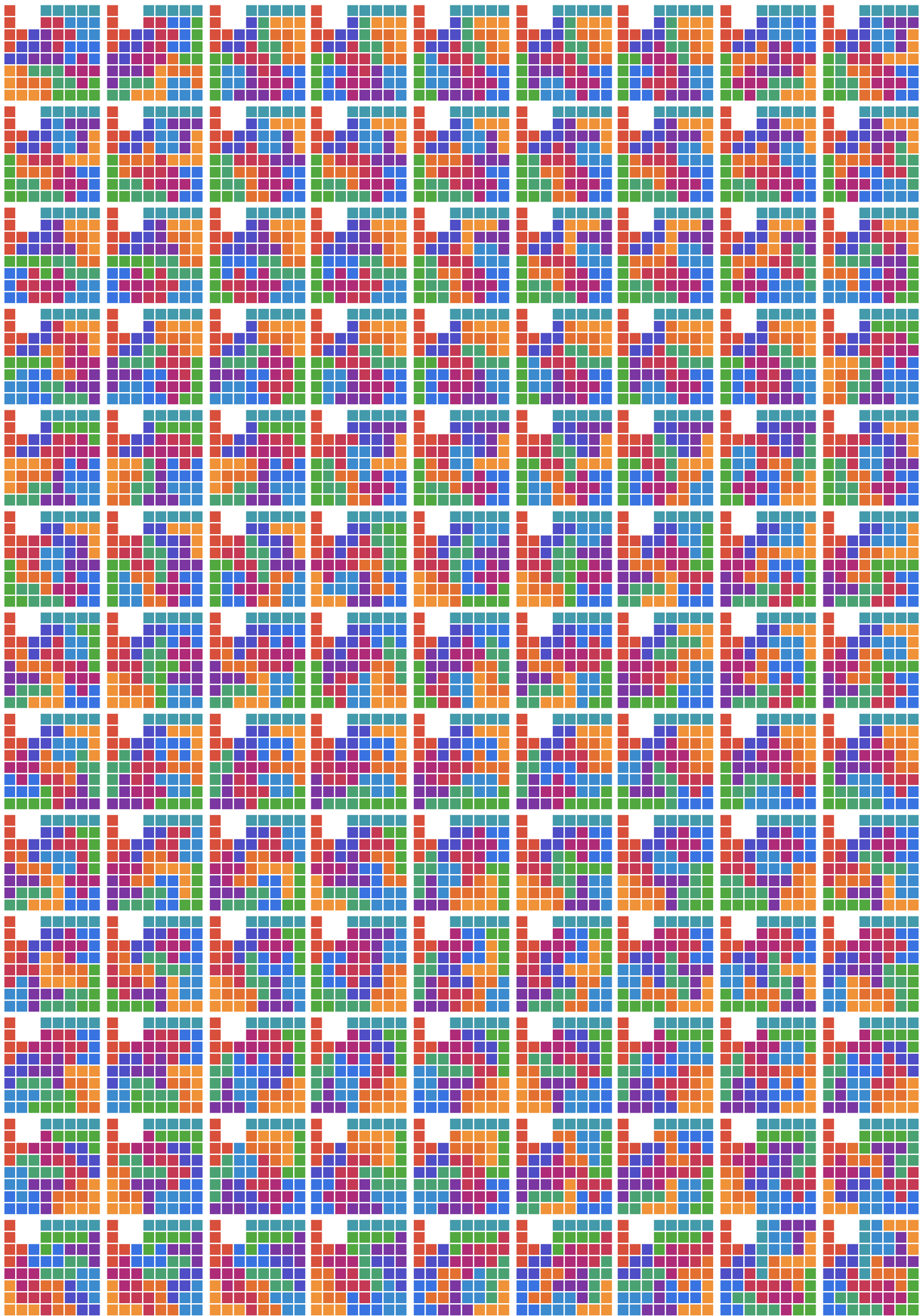


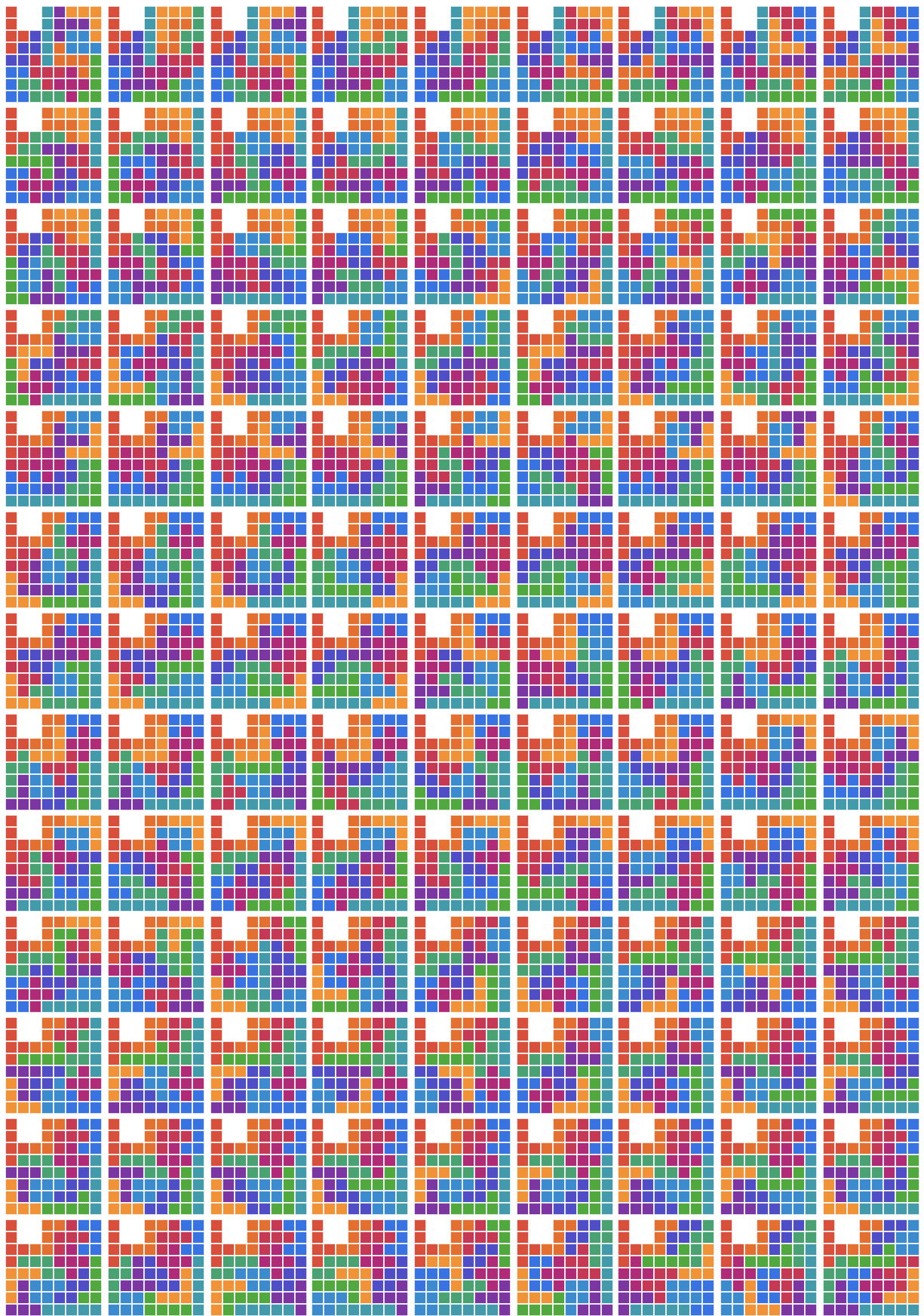


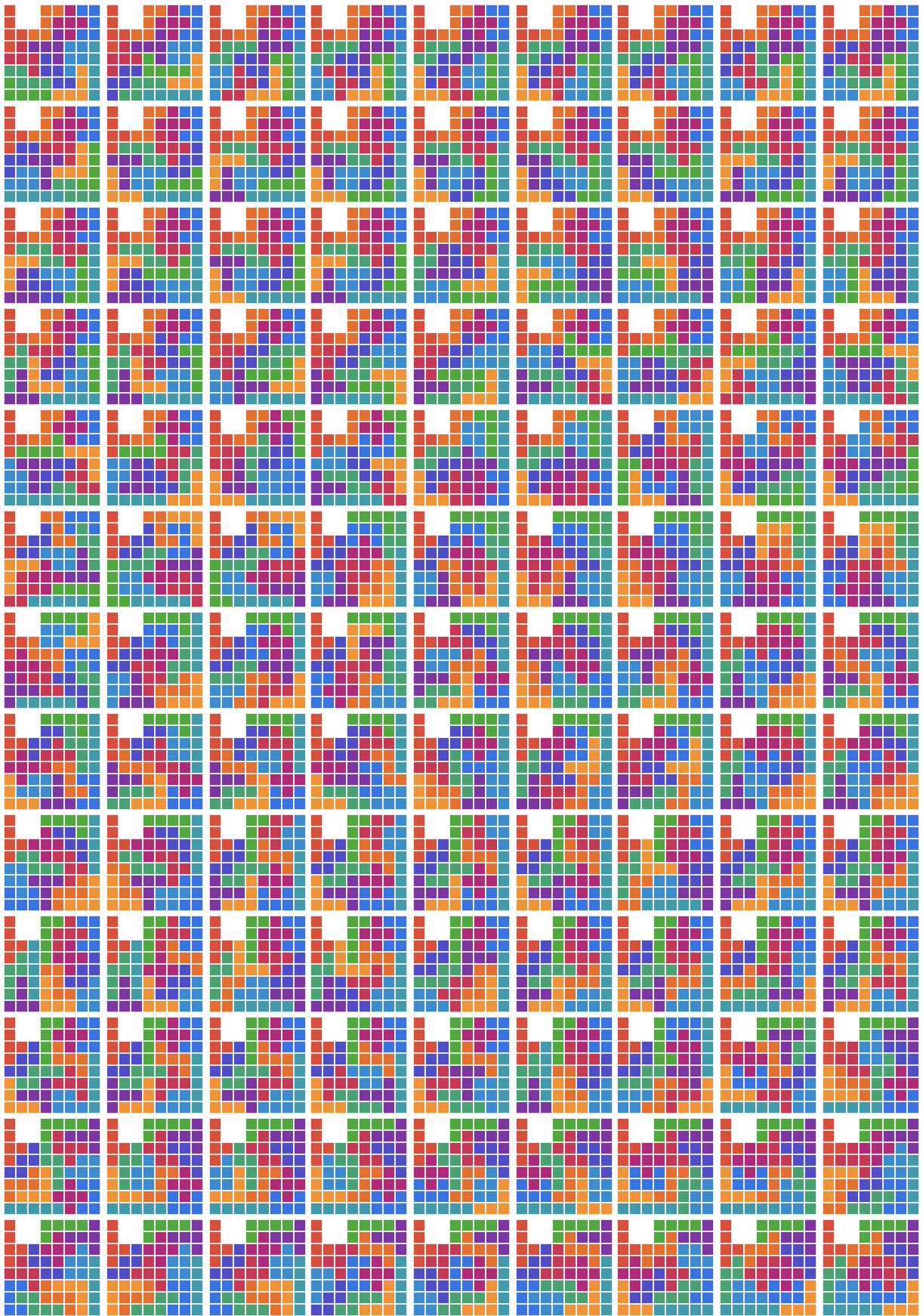


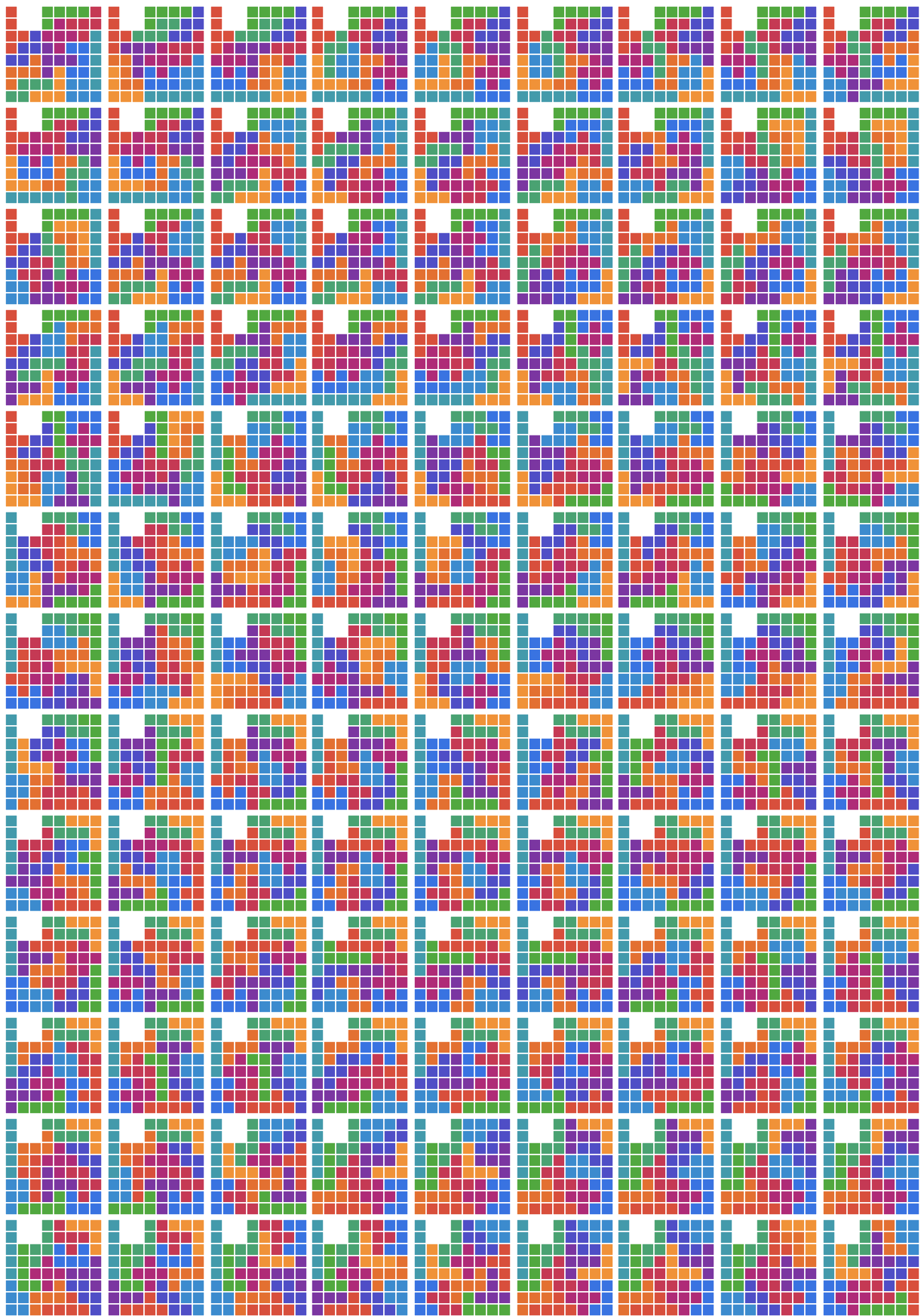


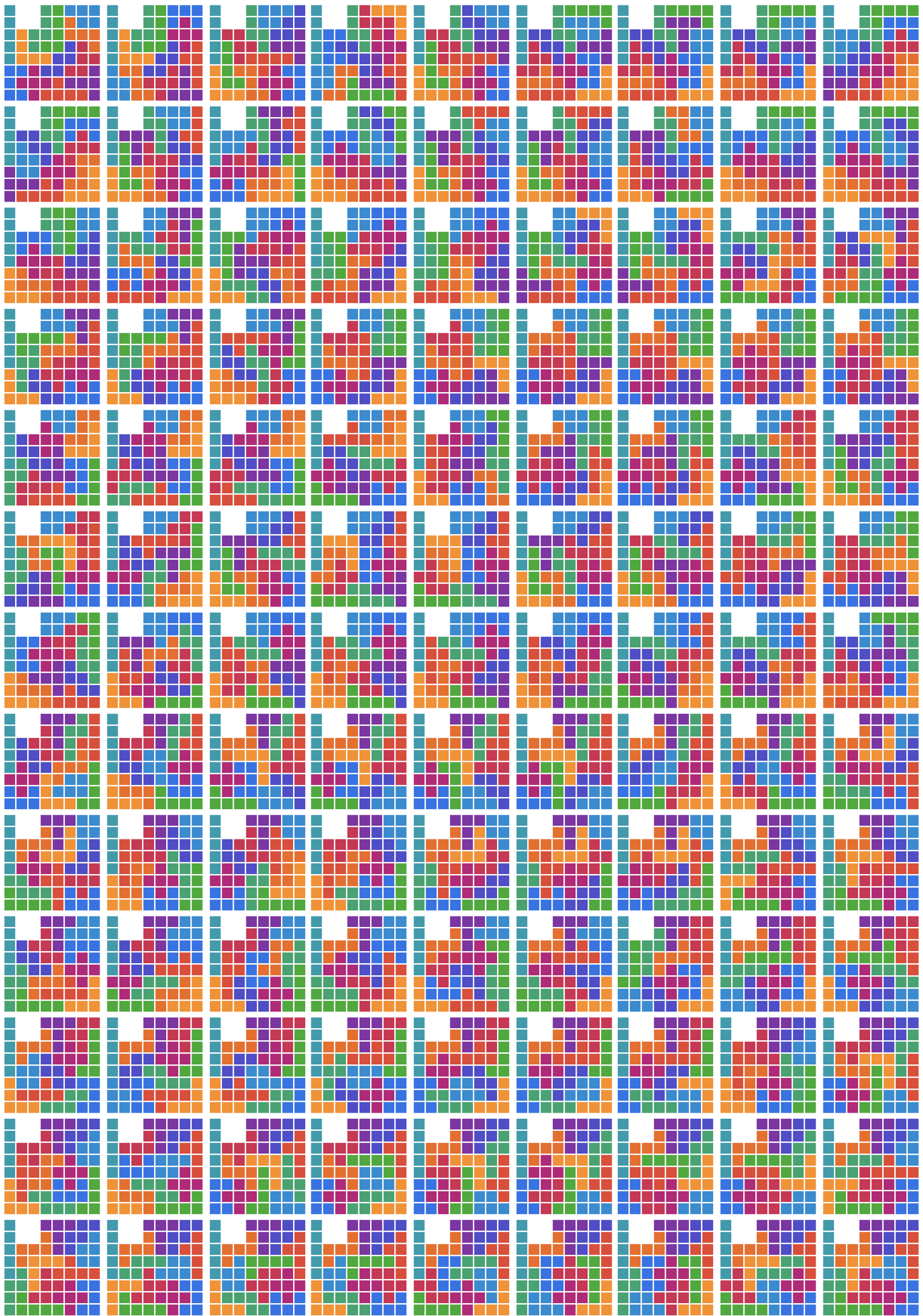


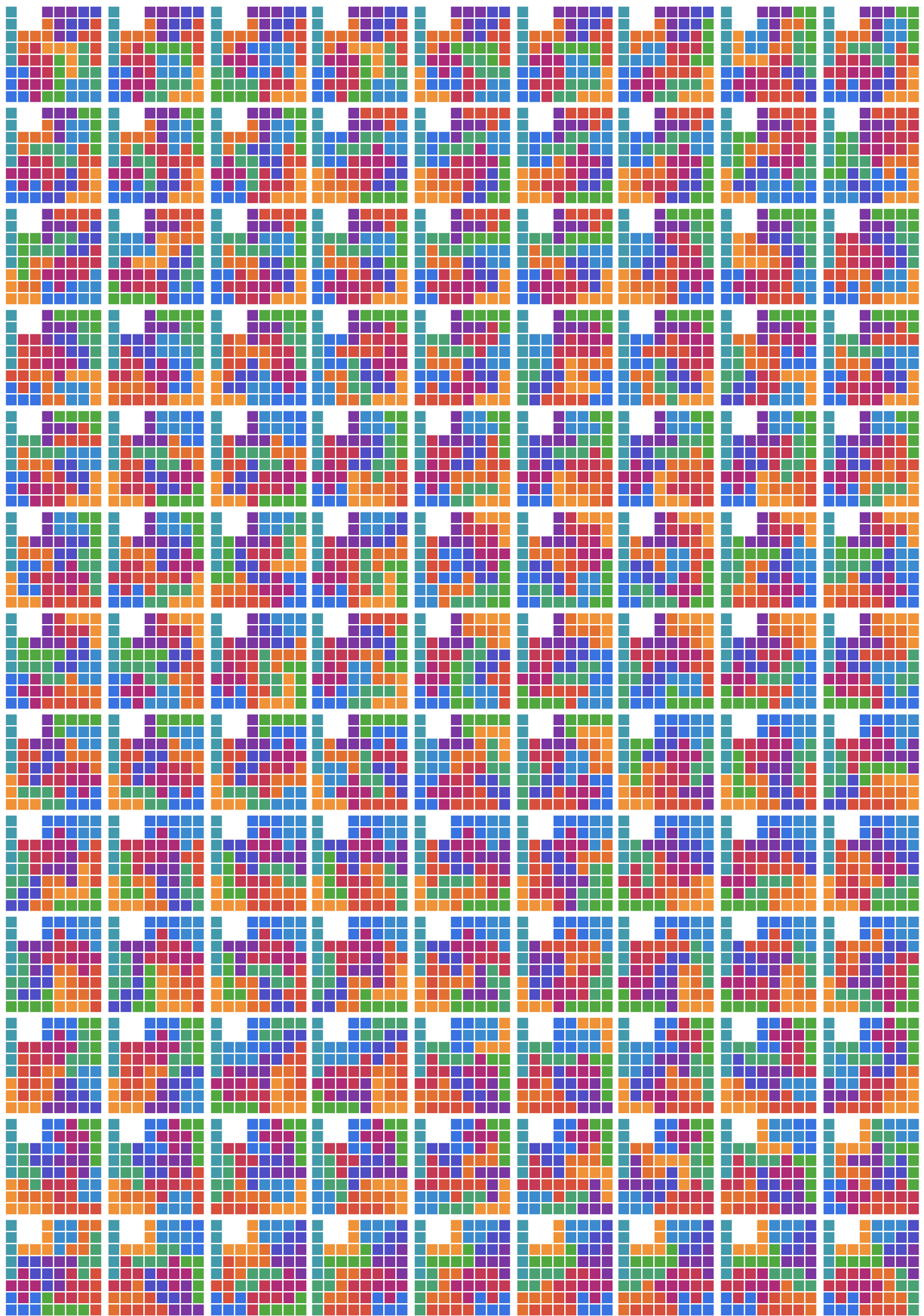


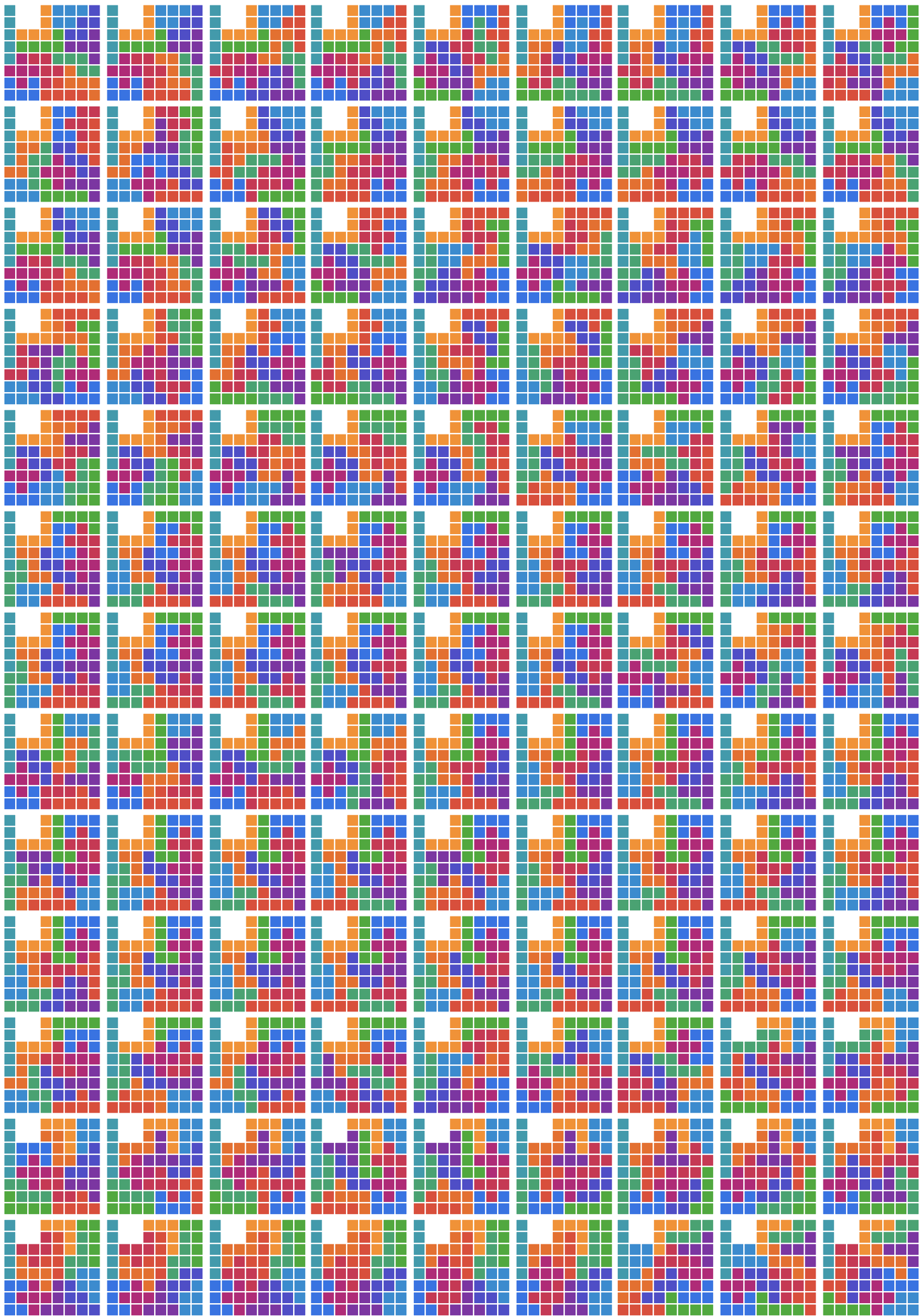


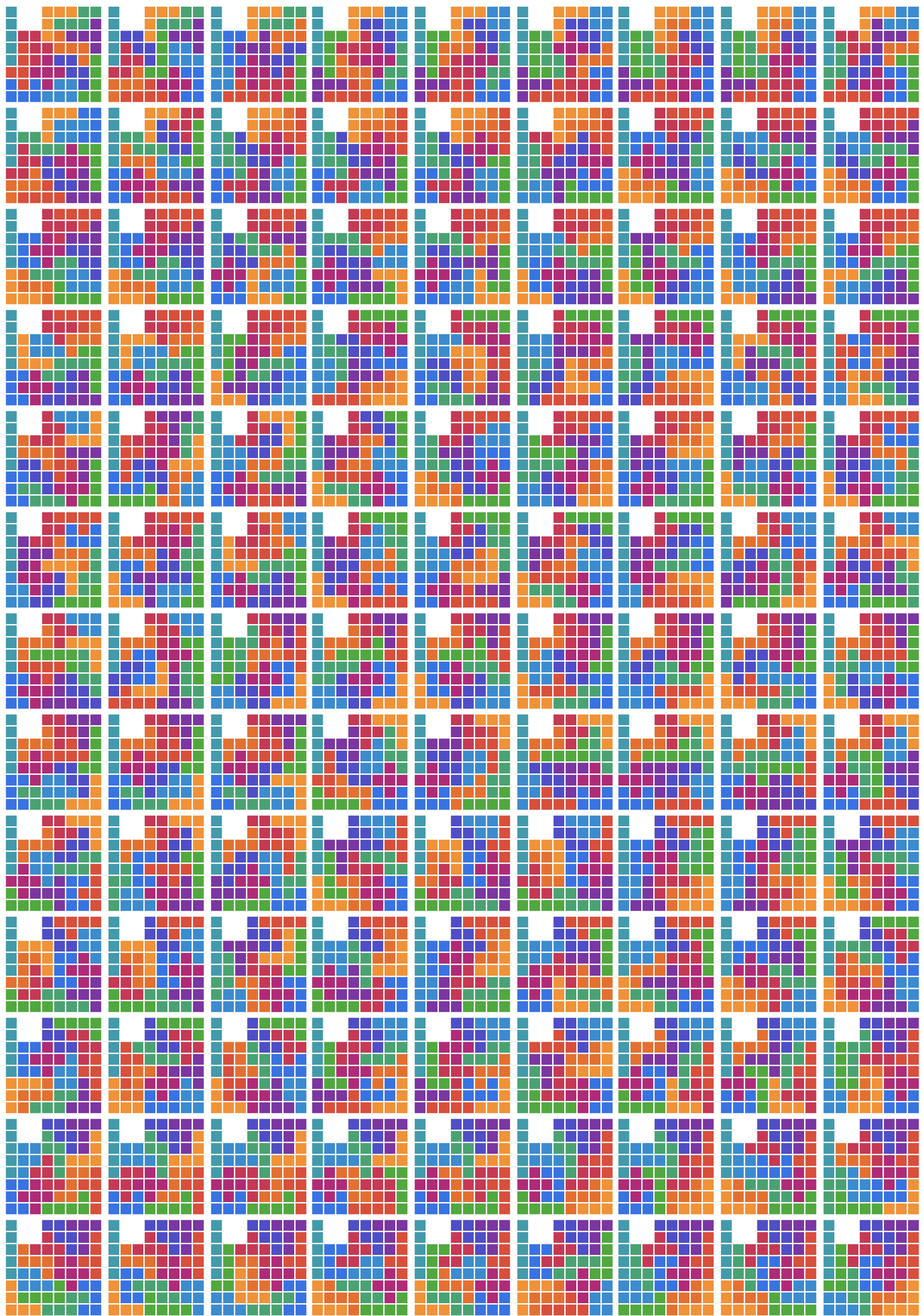


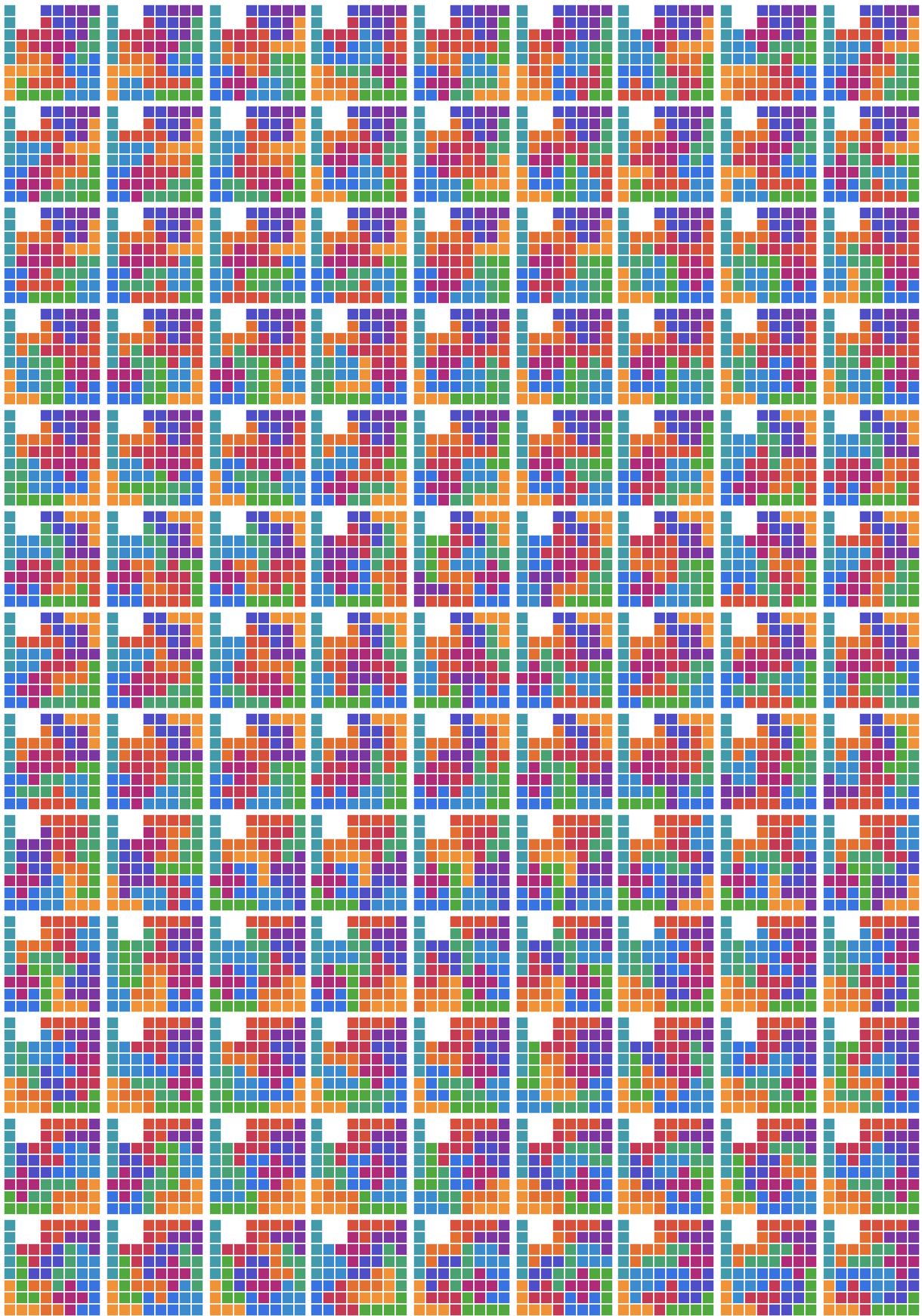


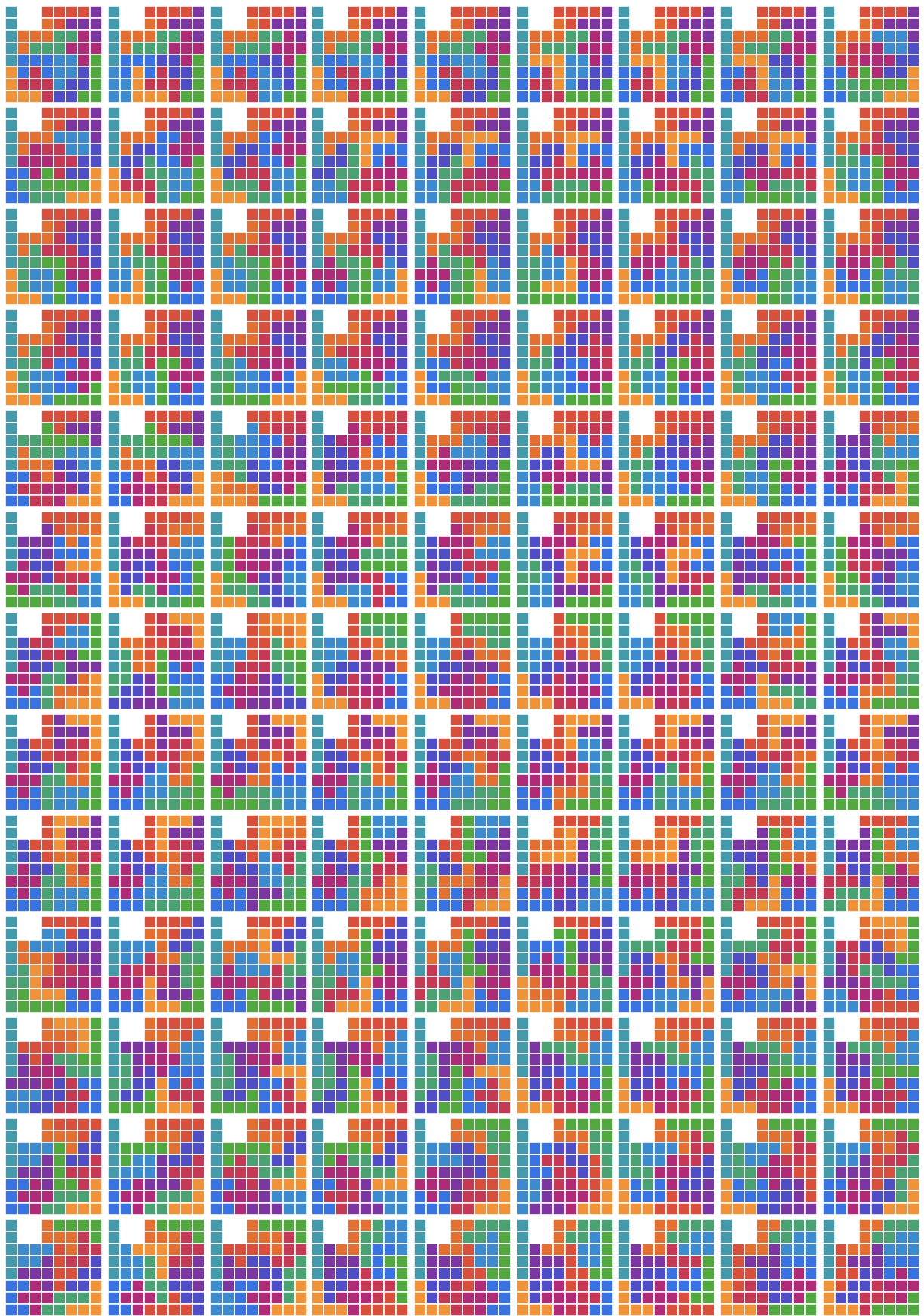


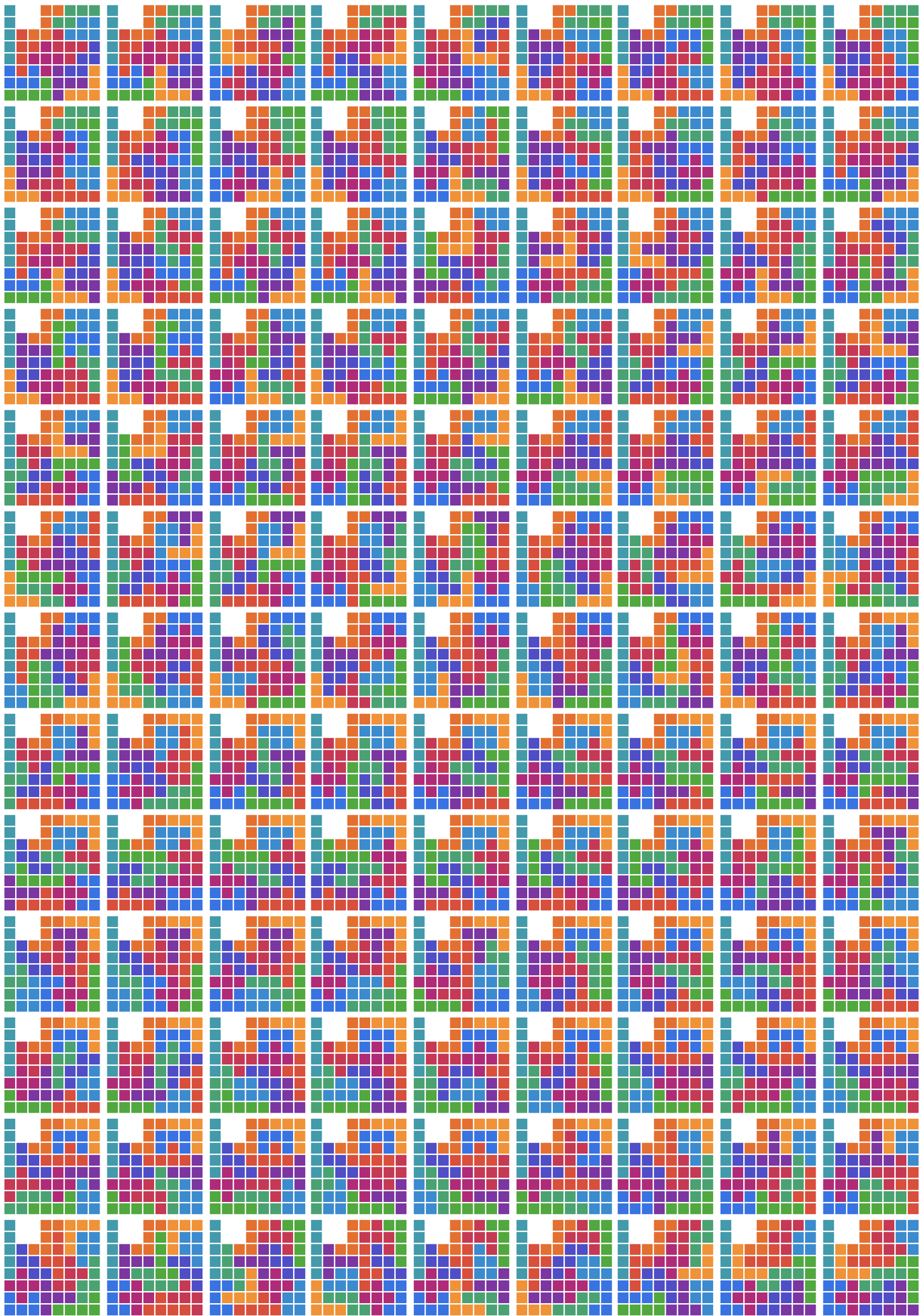


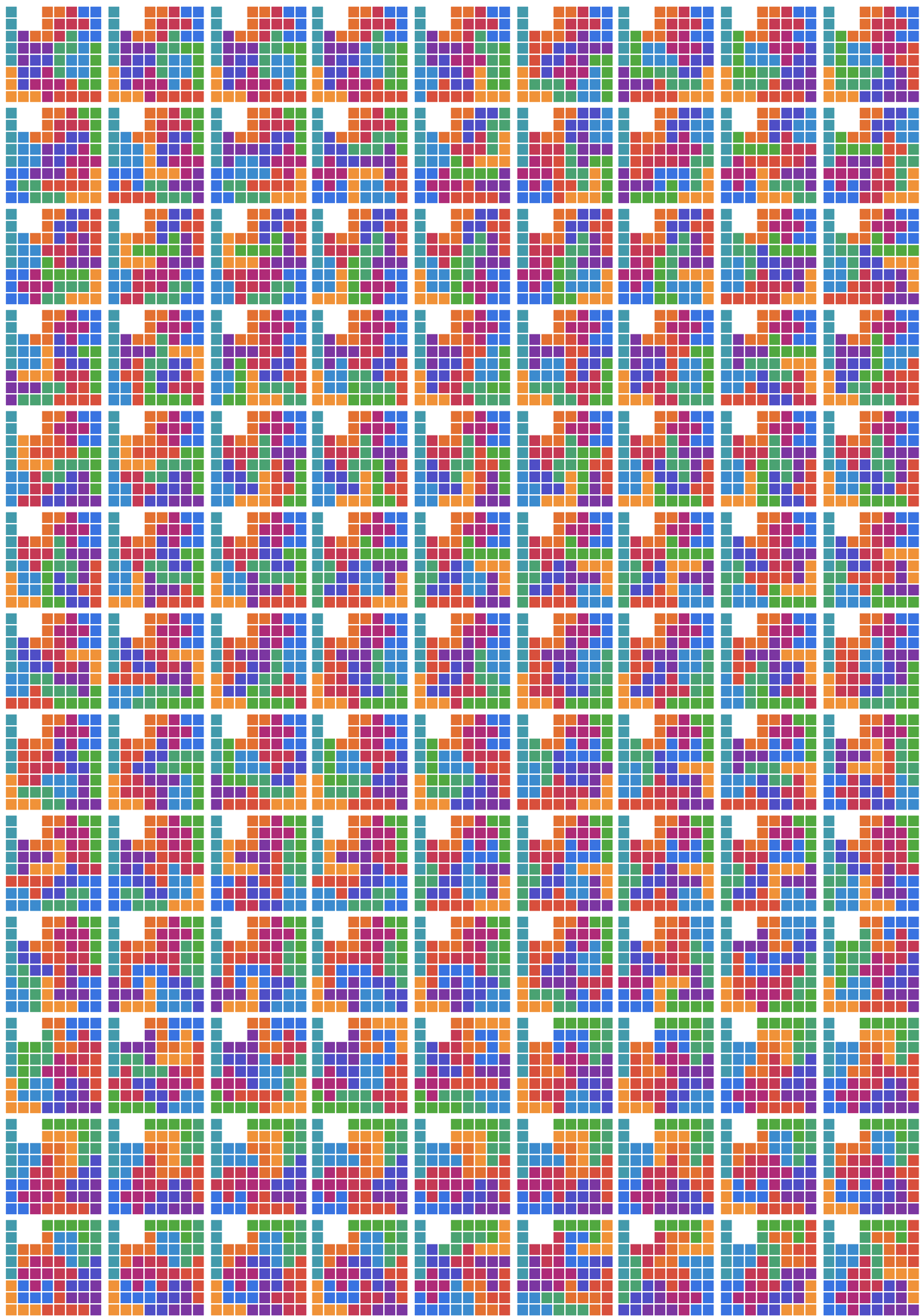


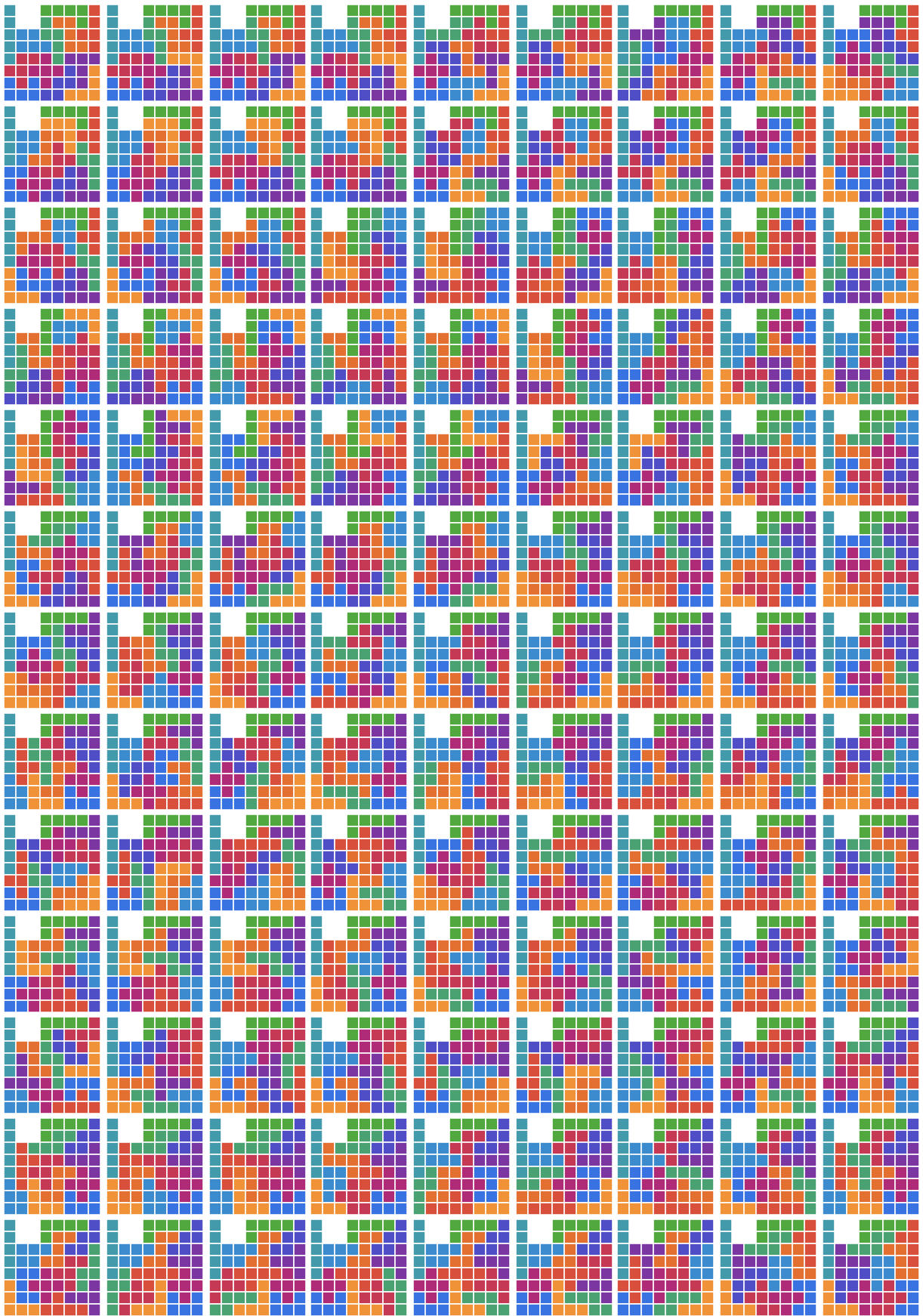


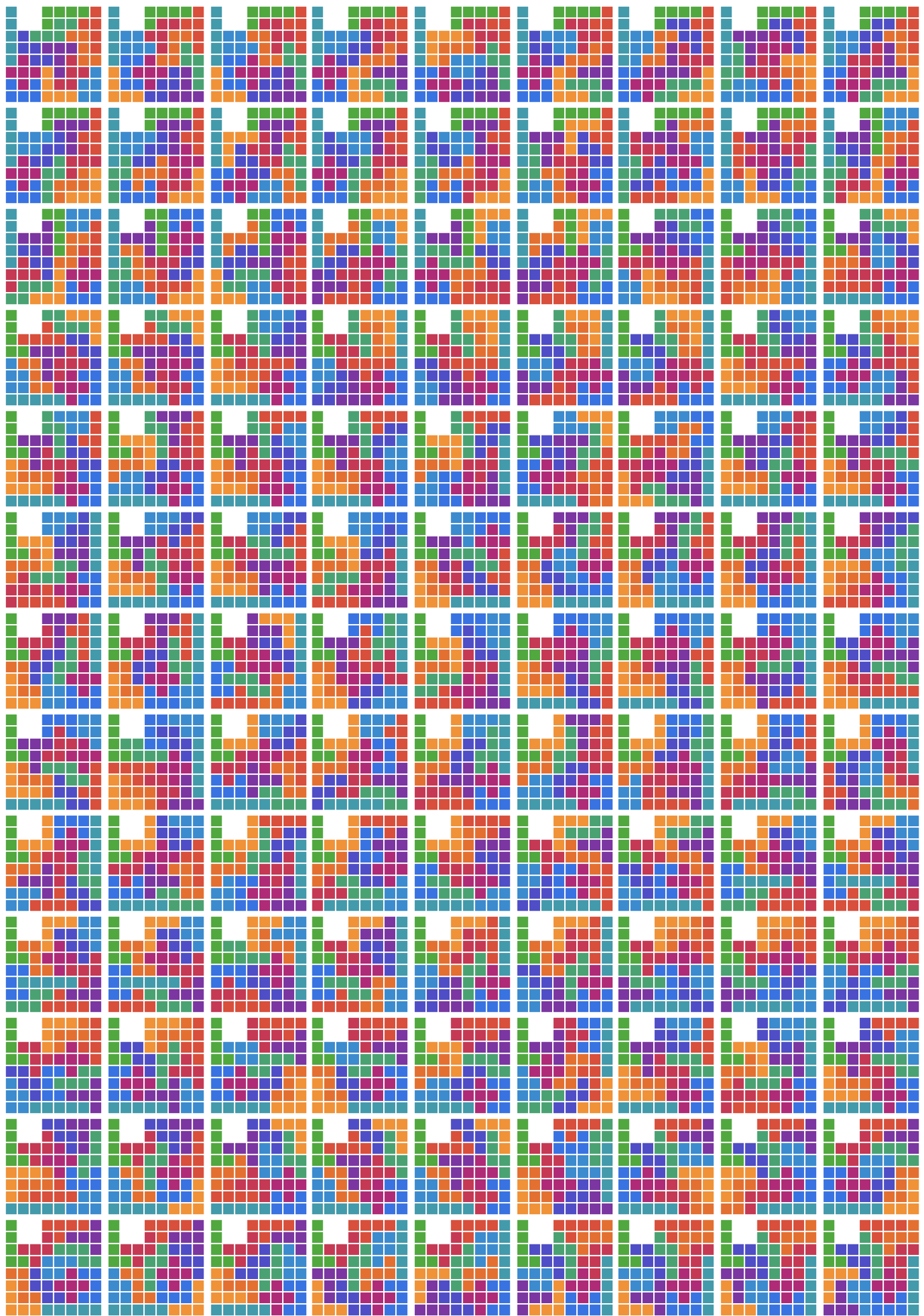


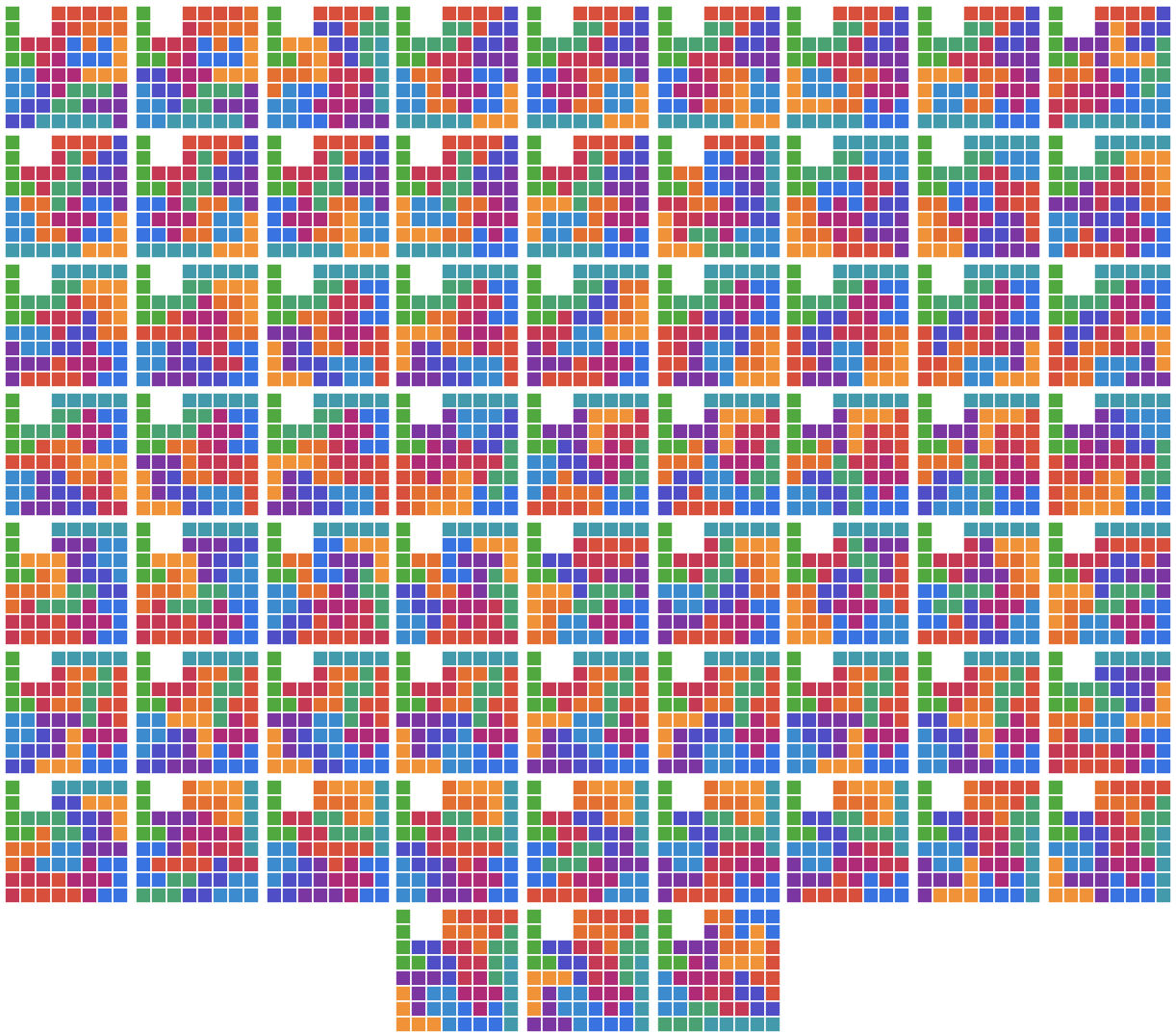


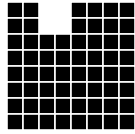






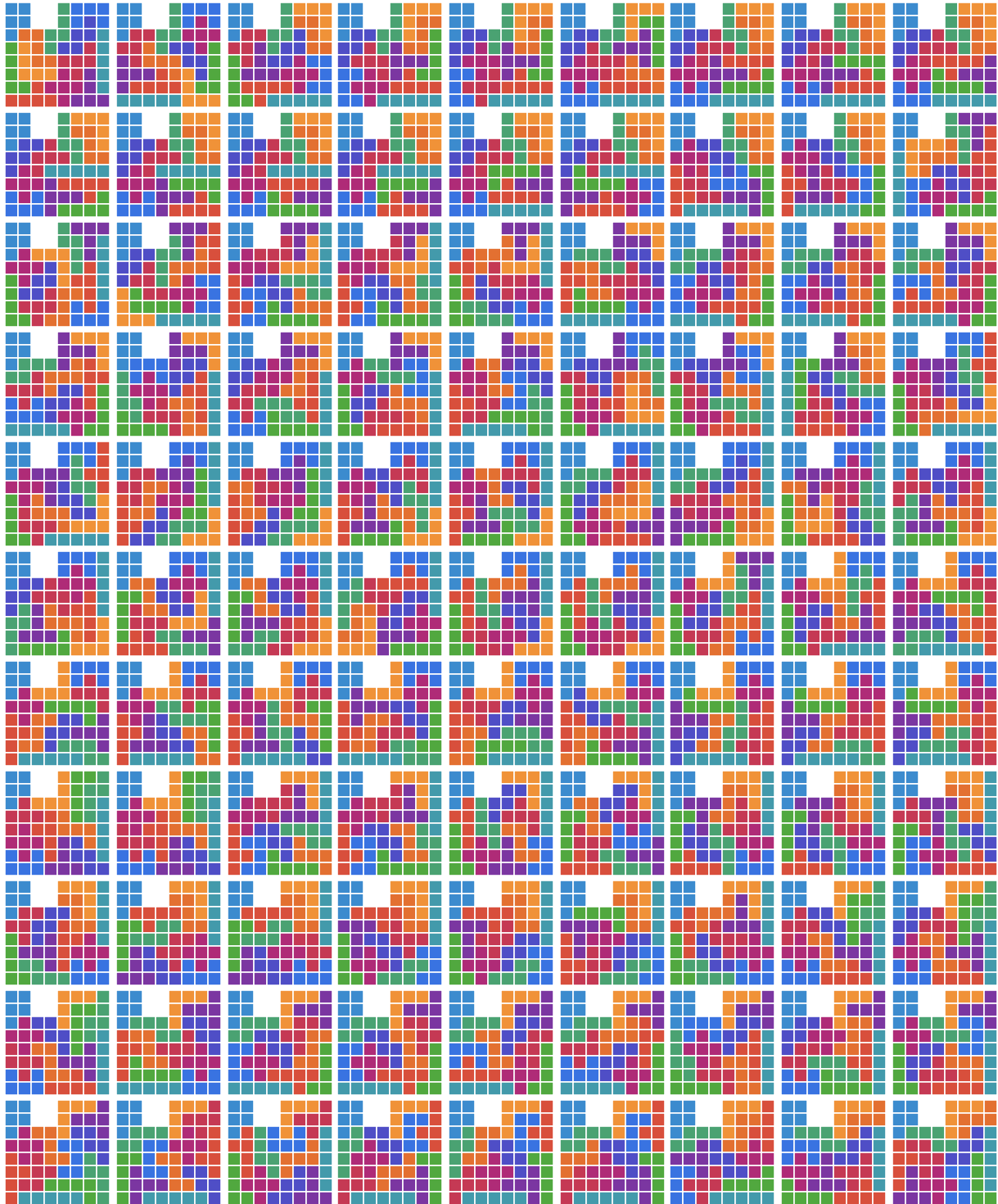


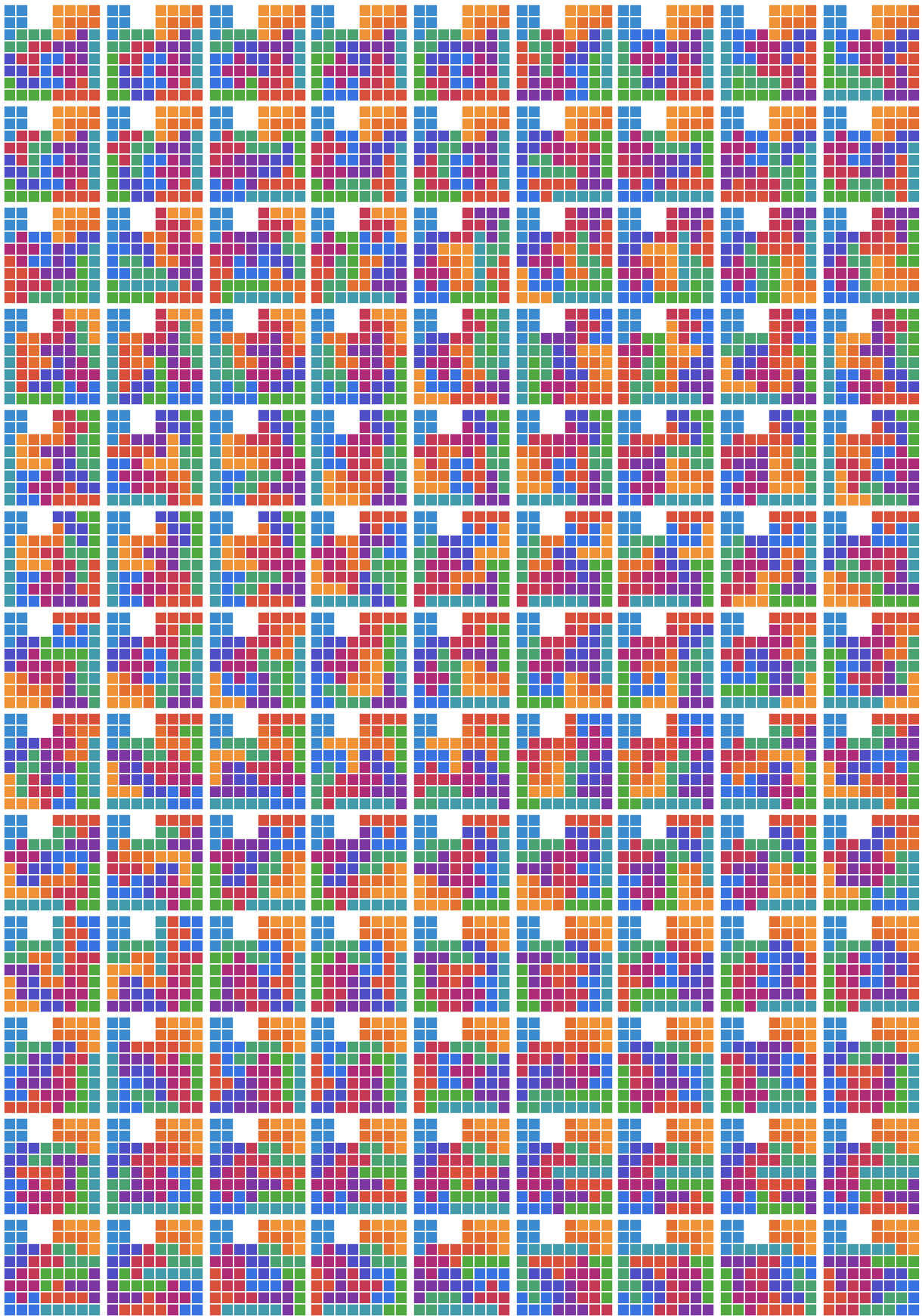


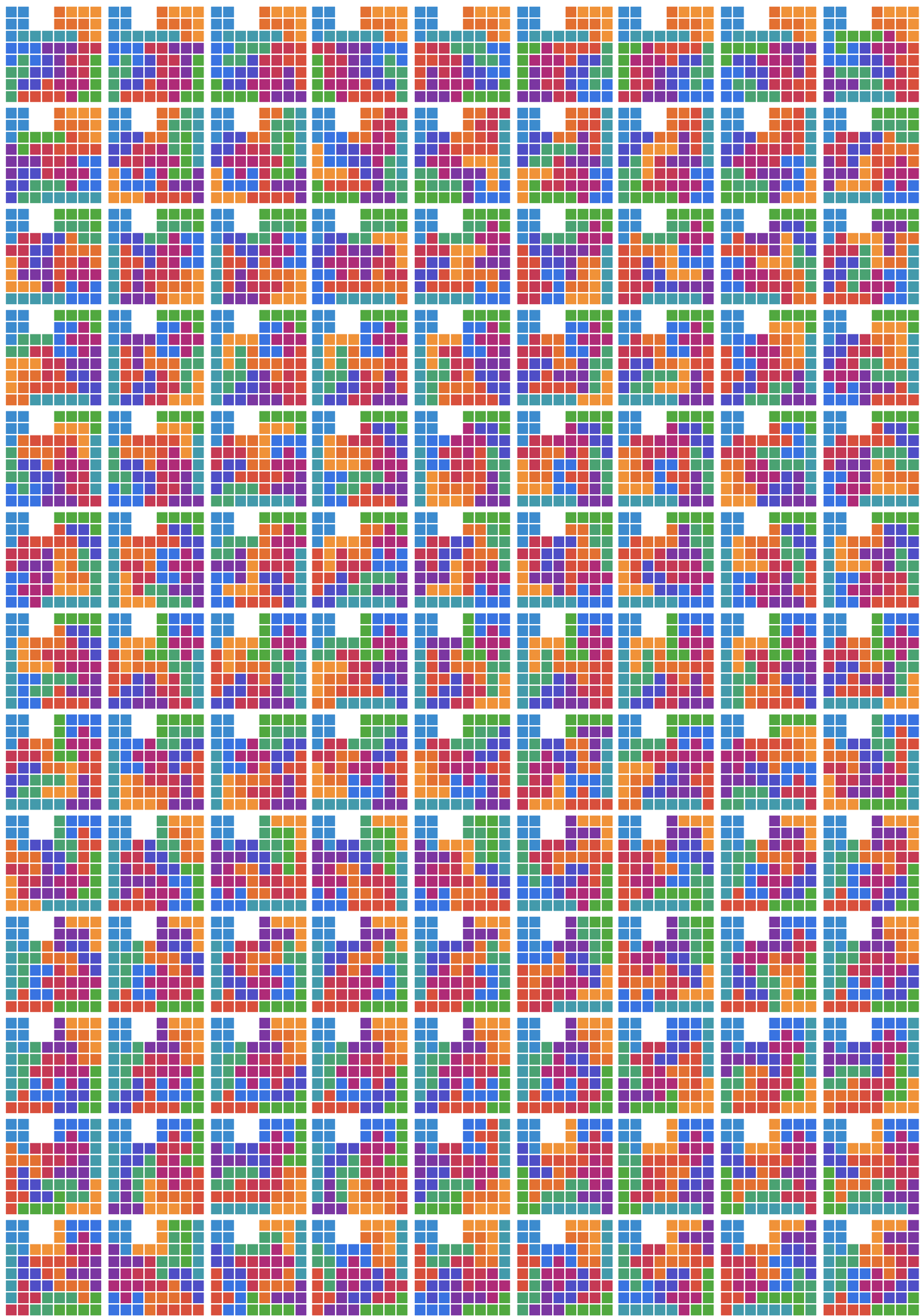


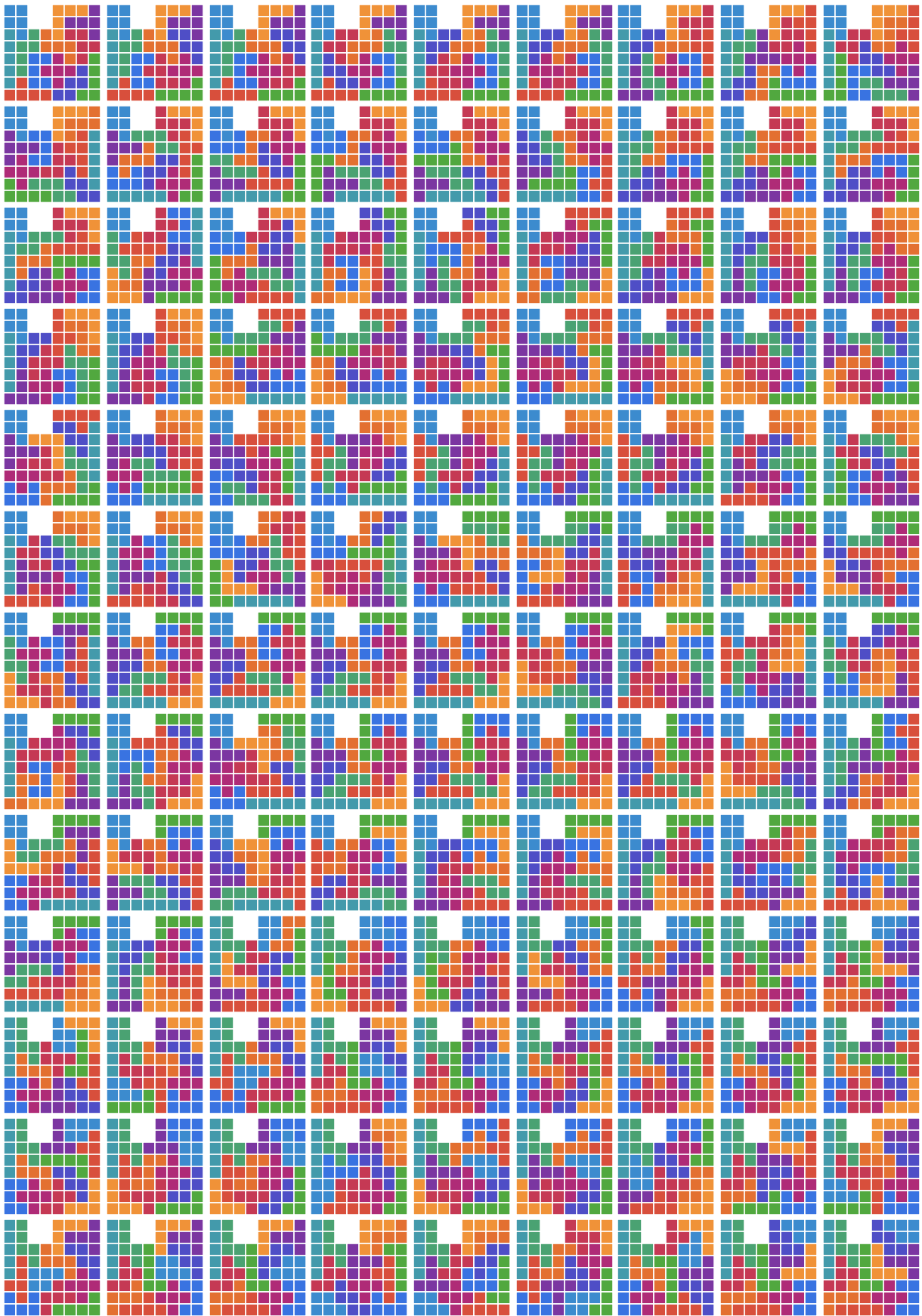
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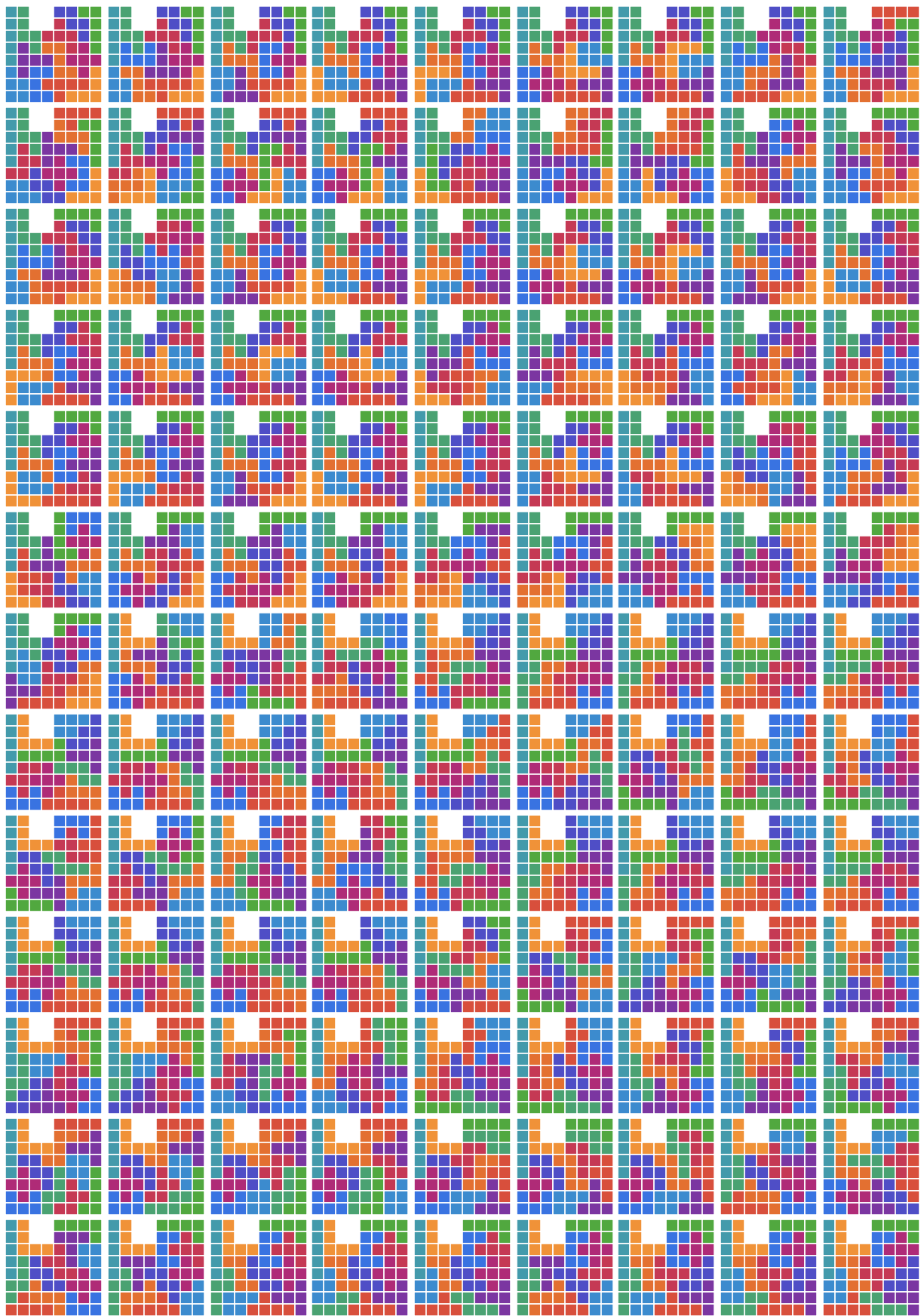
1,839 Solutions

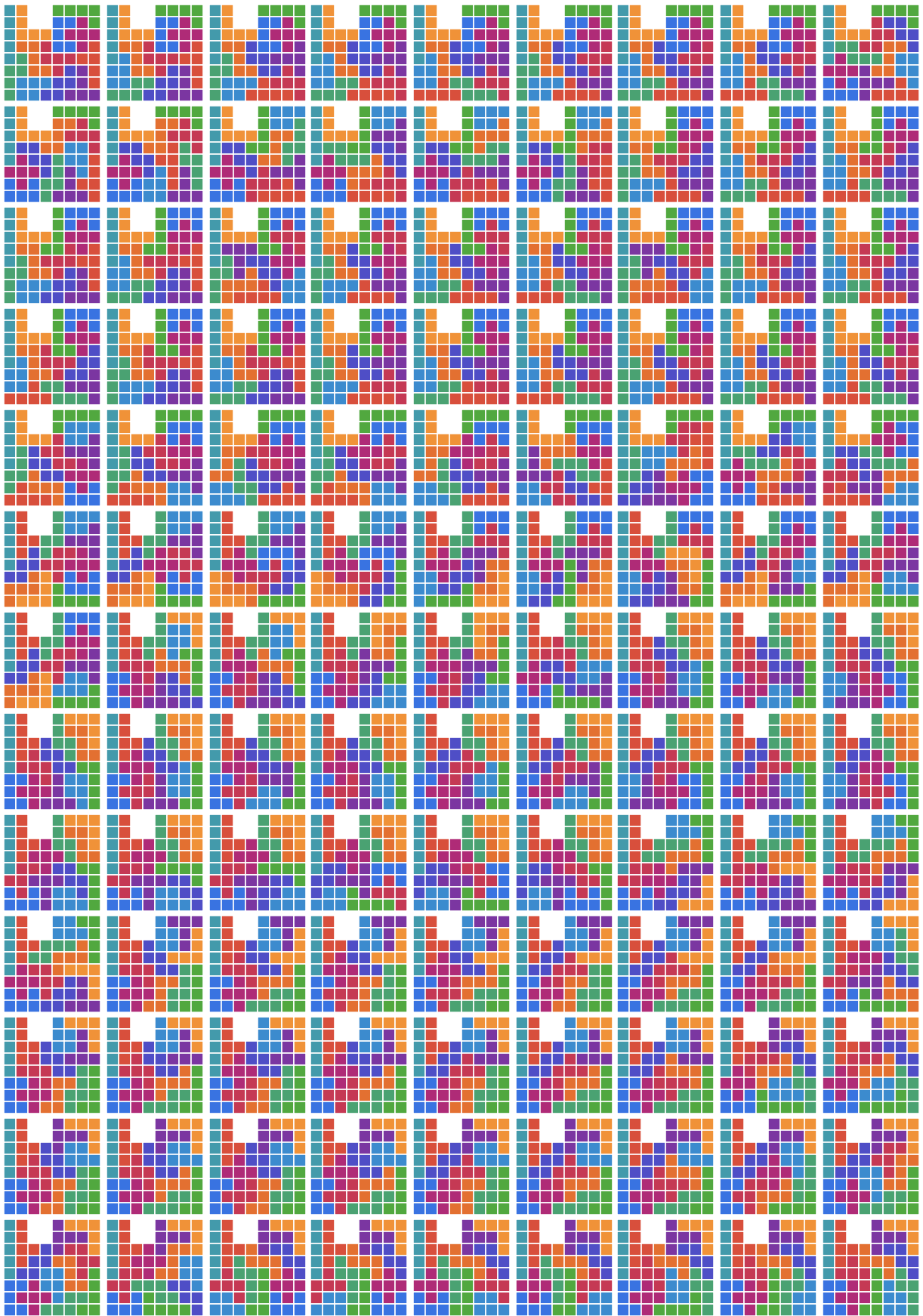


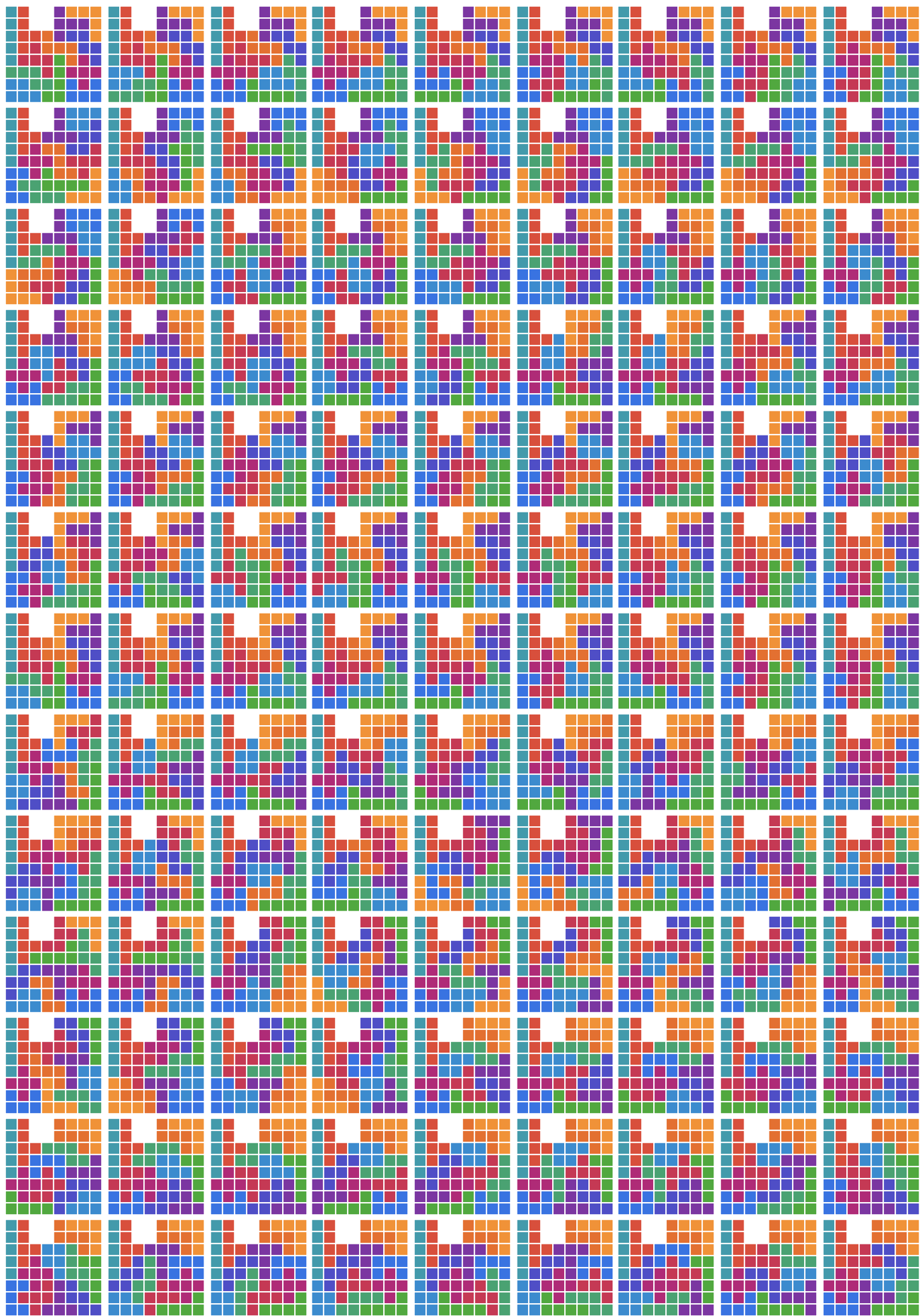


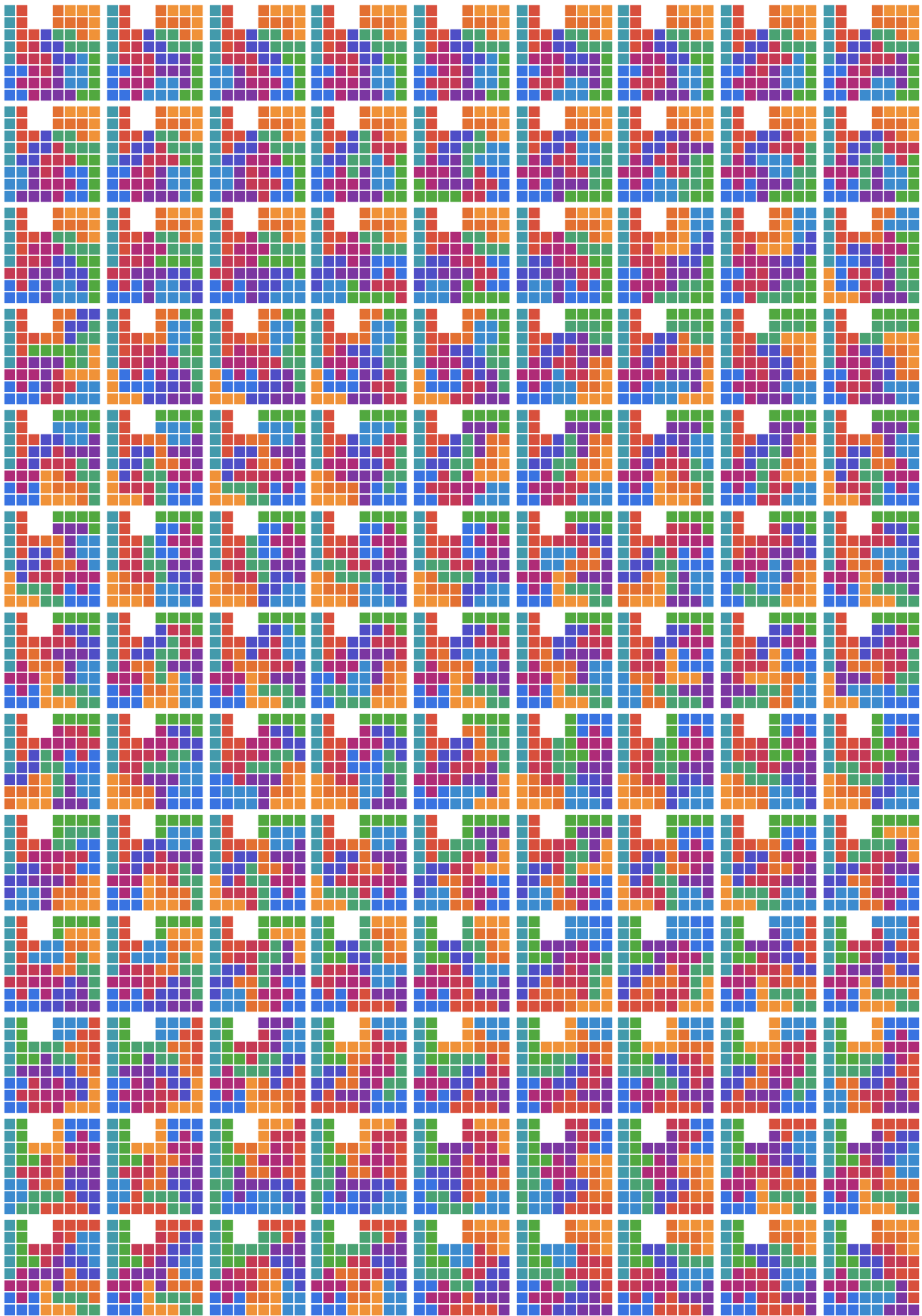


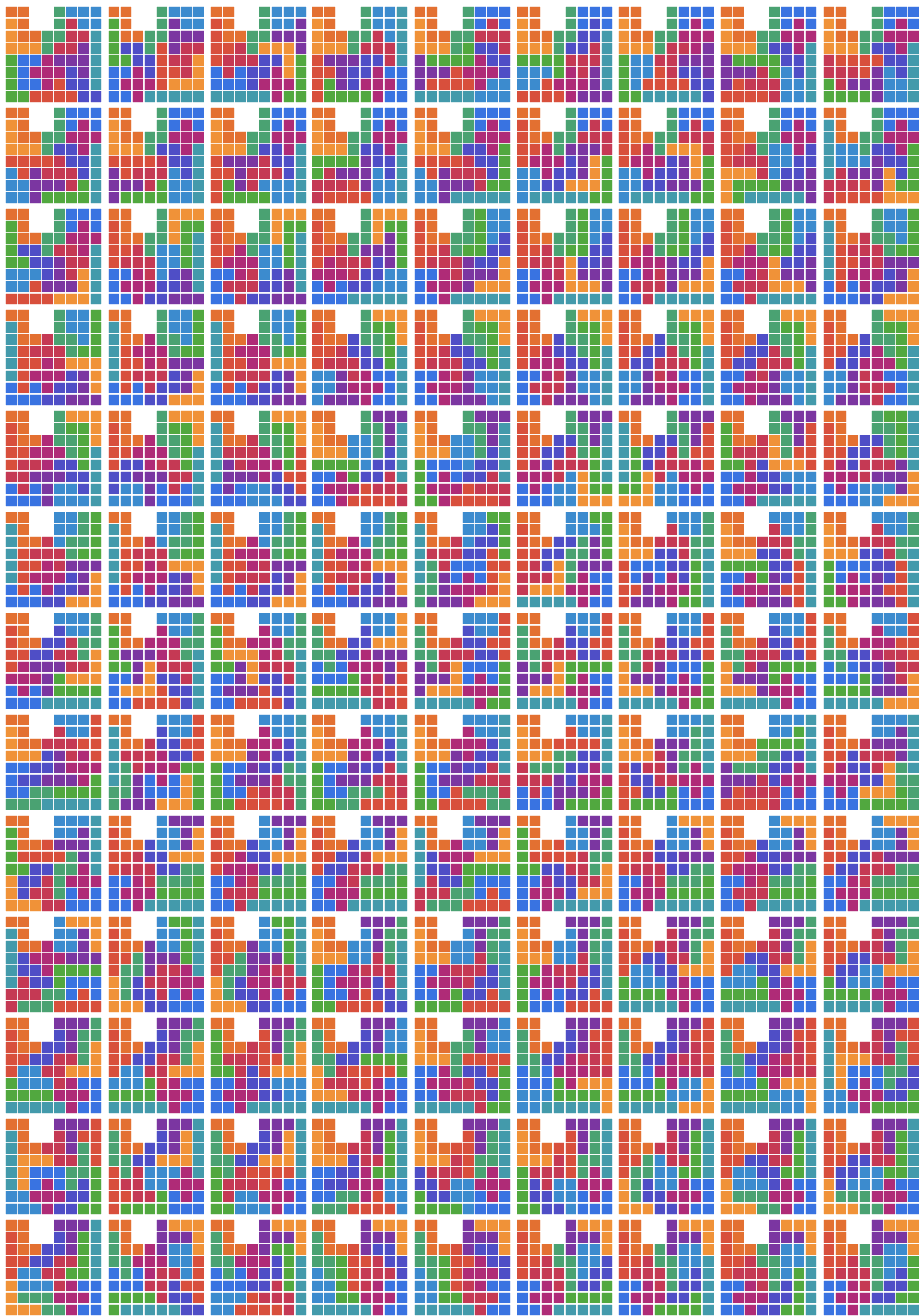


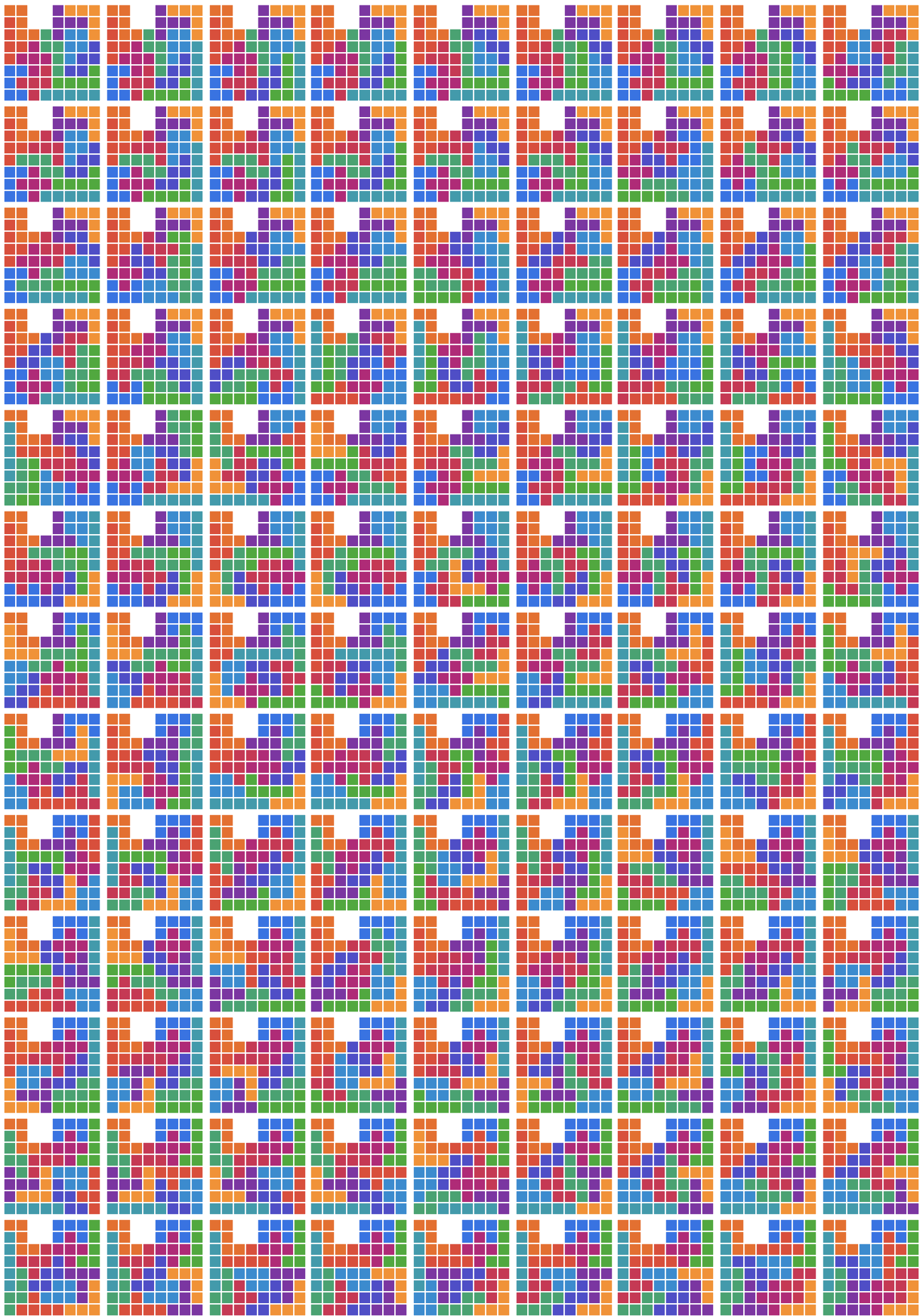


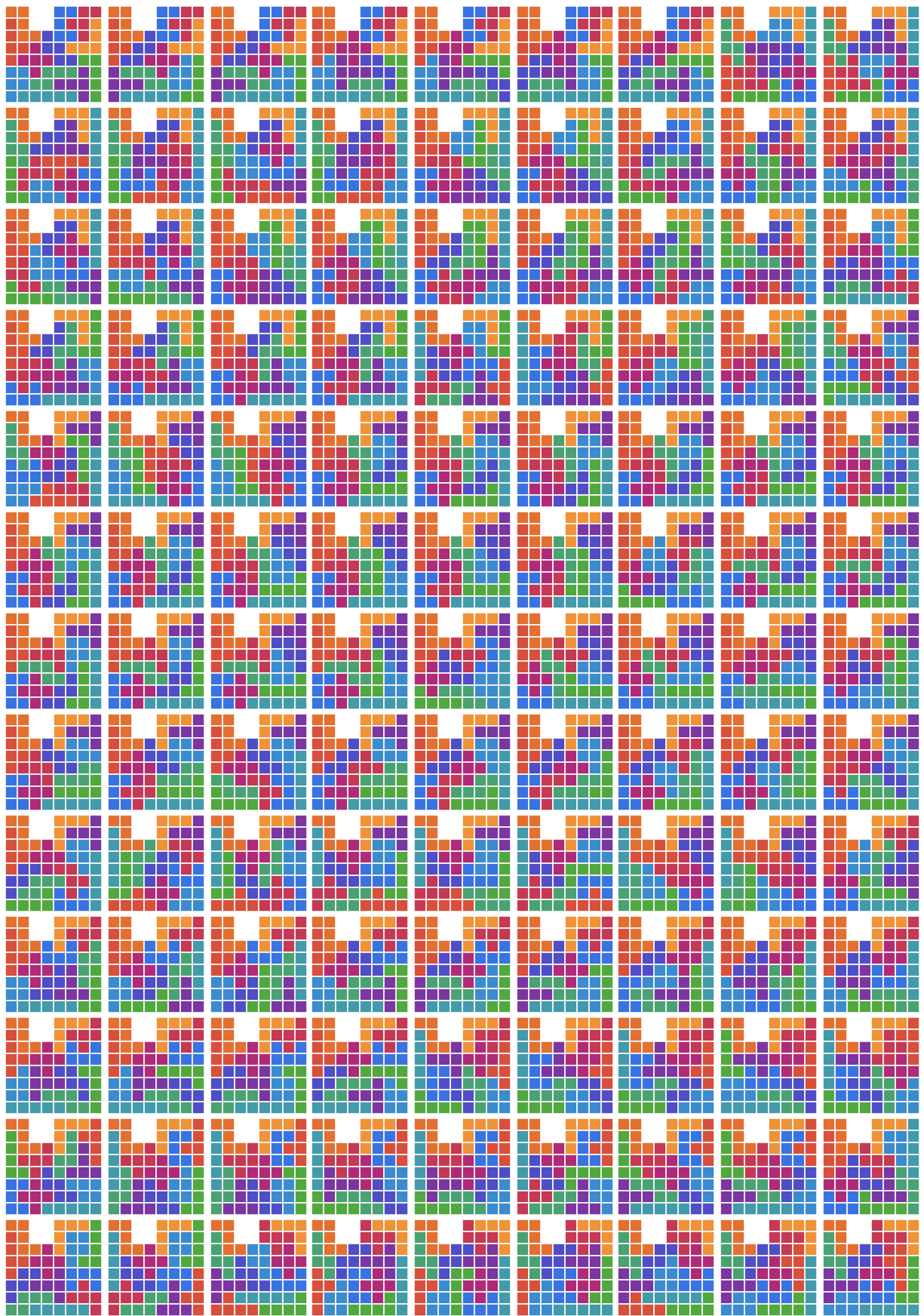


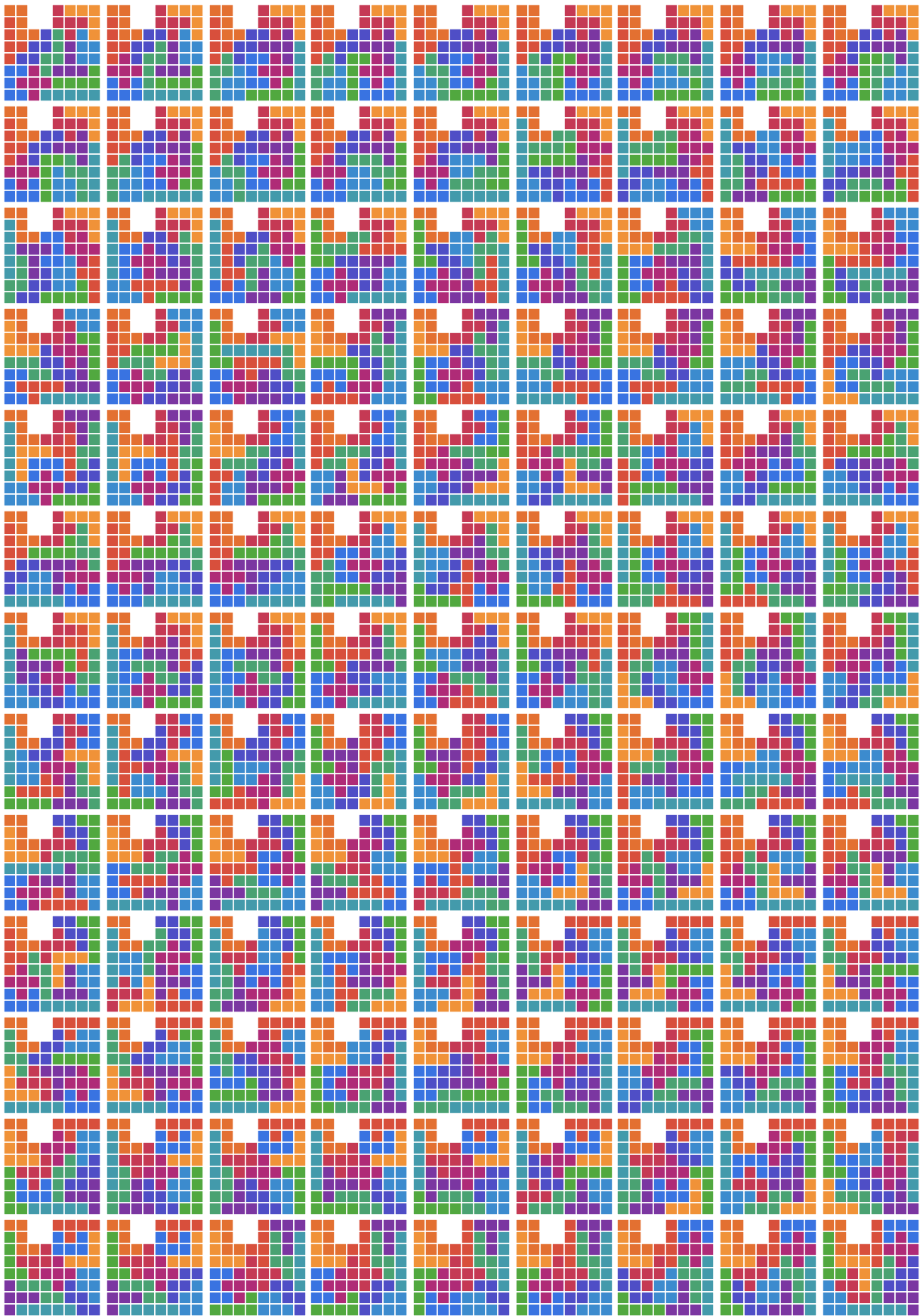


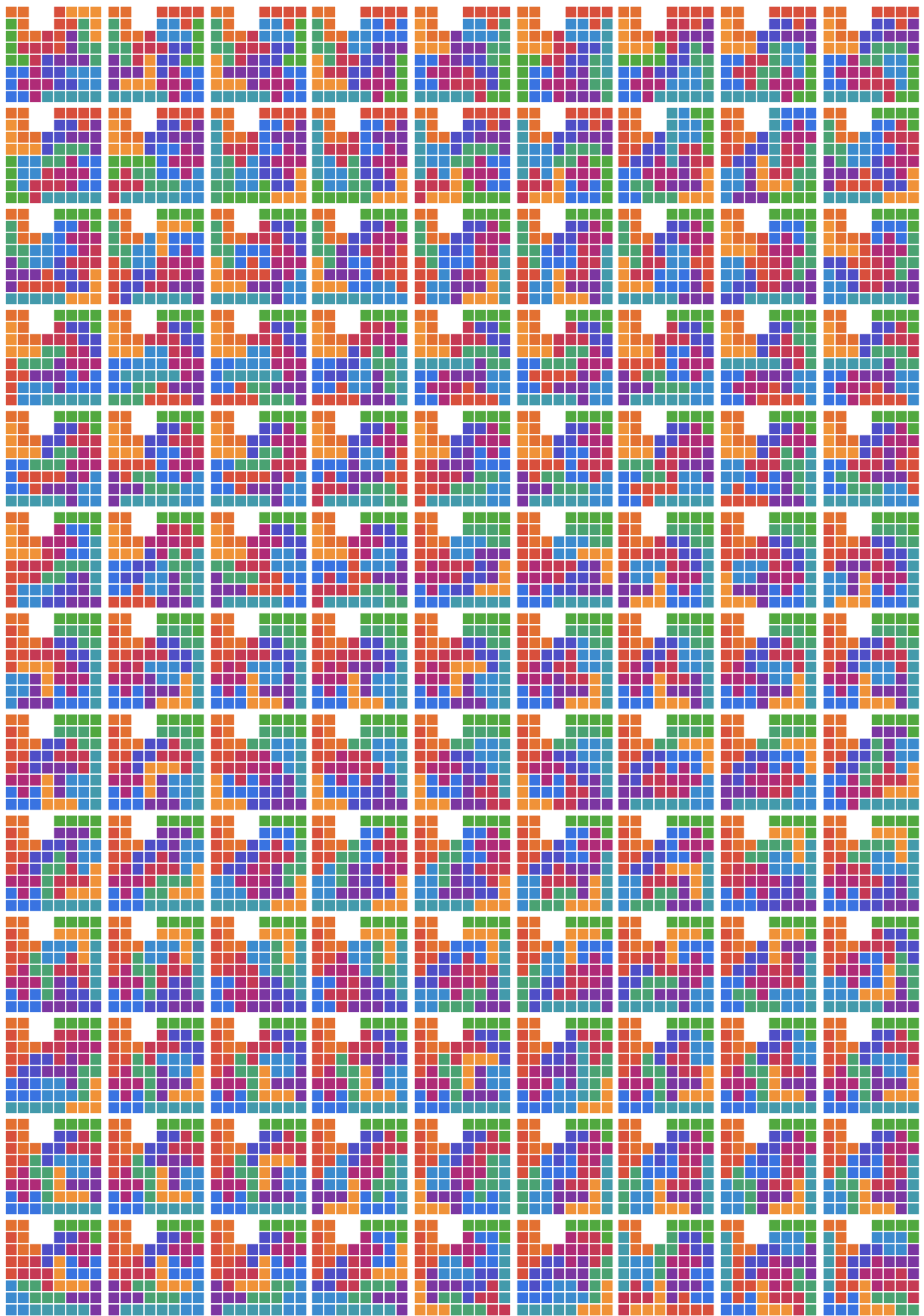


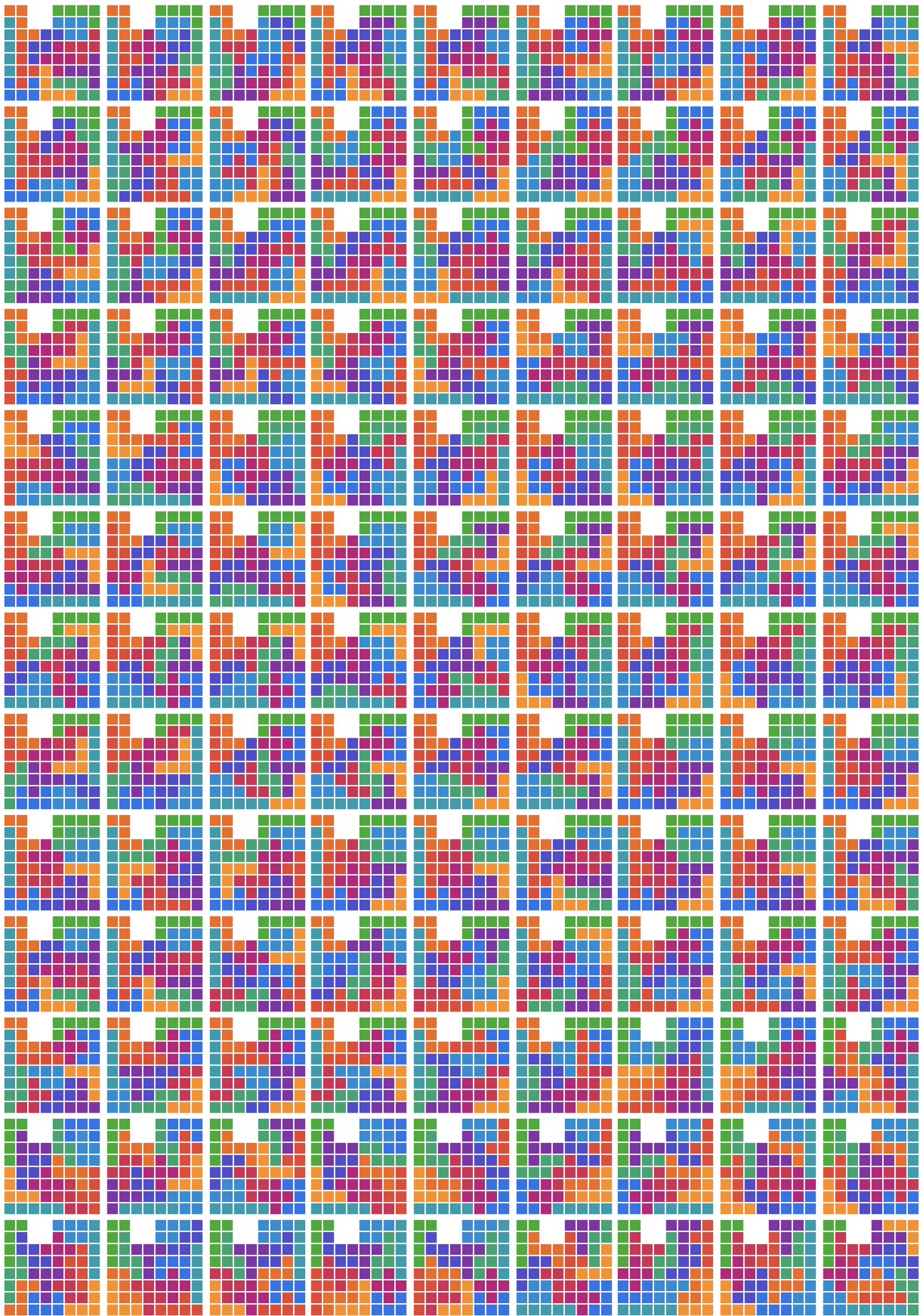


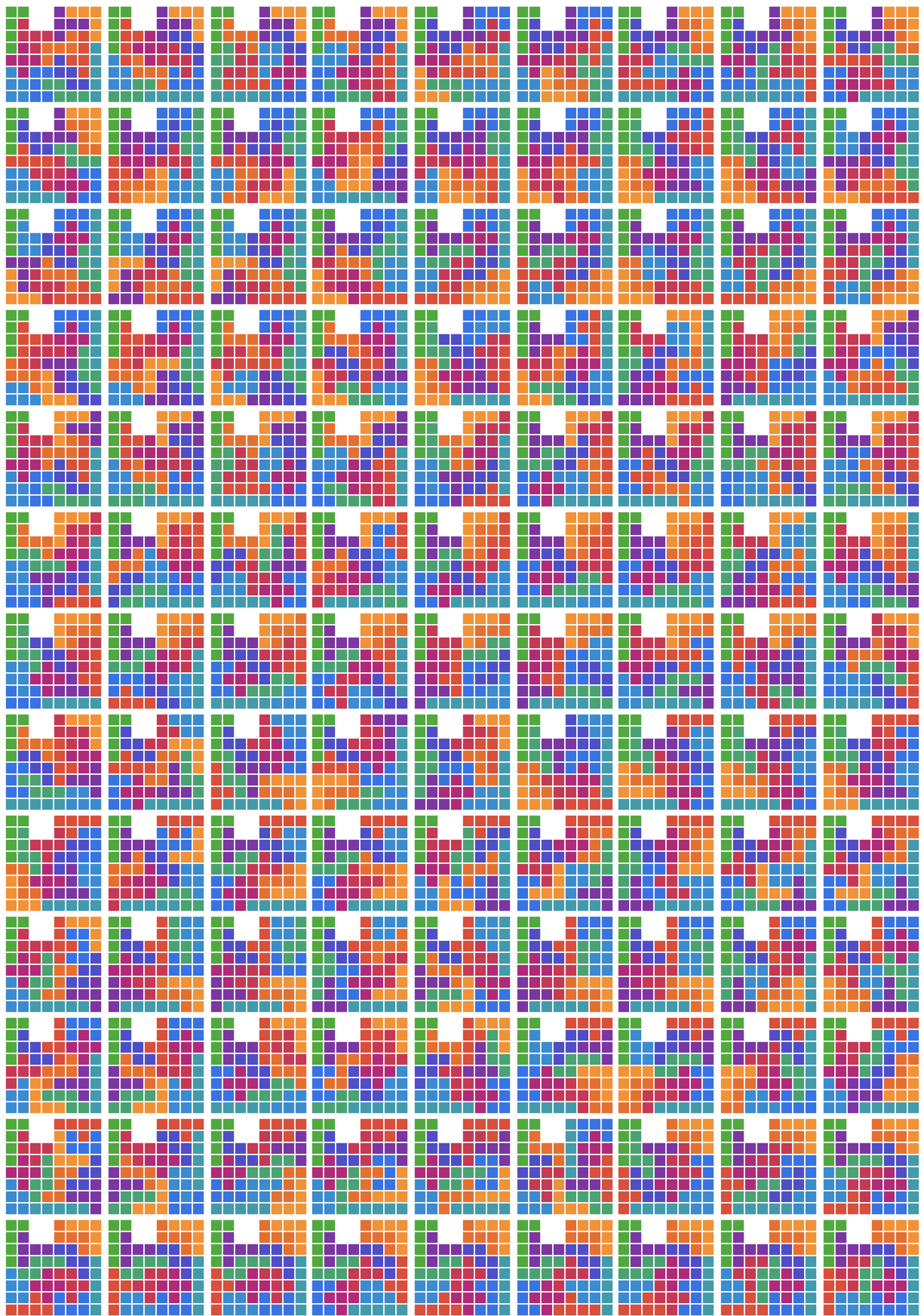


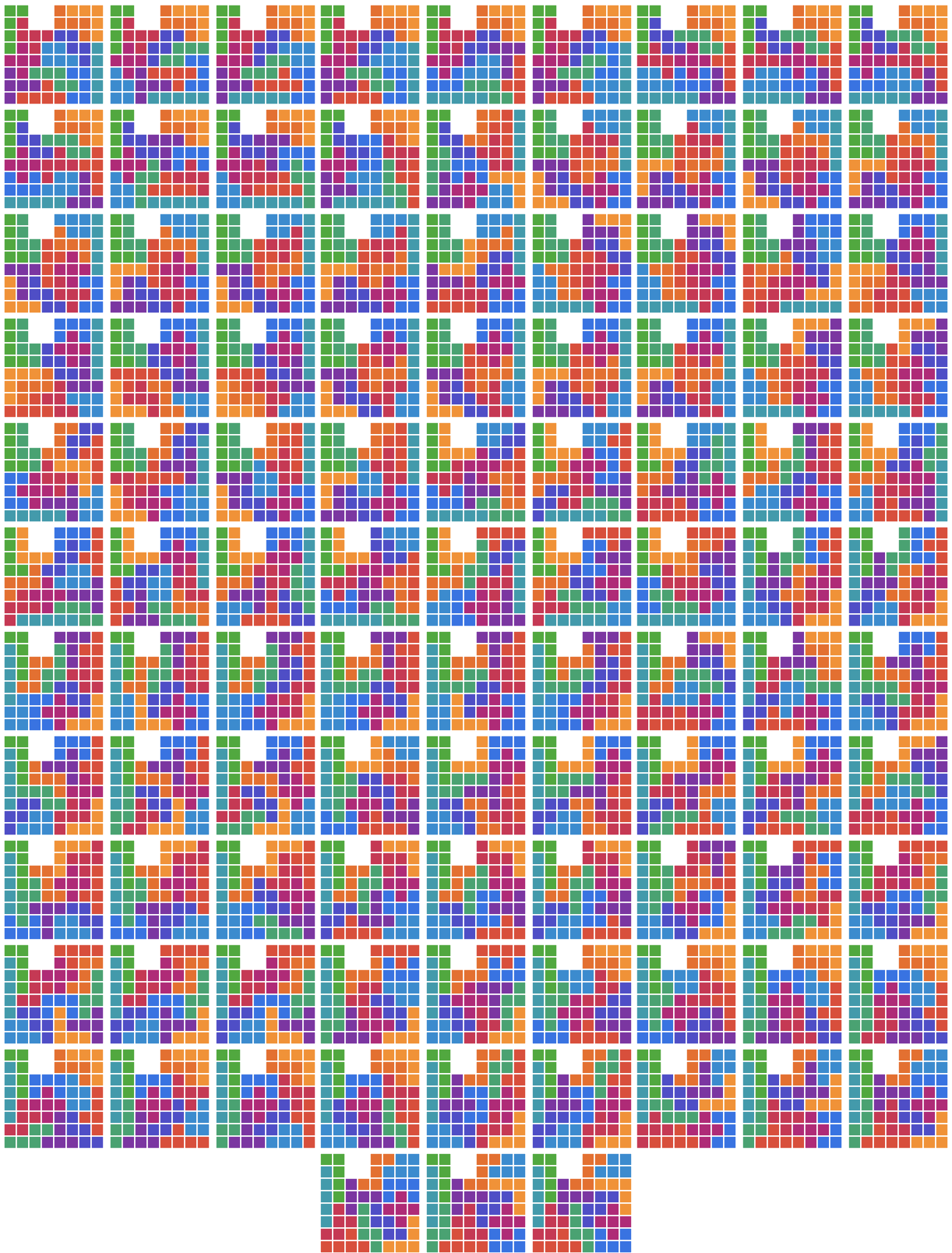


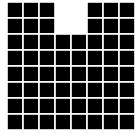






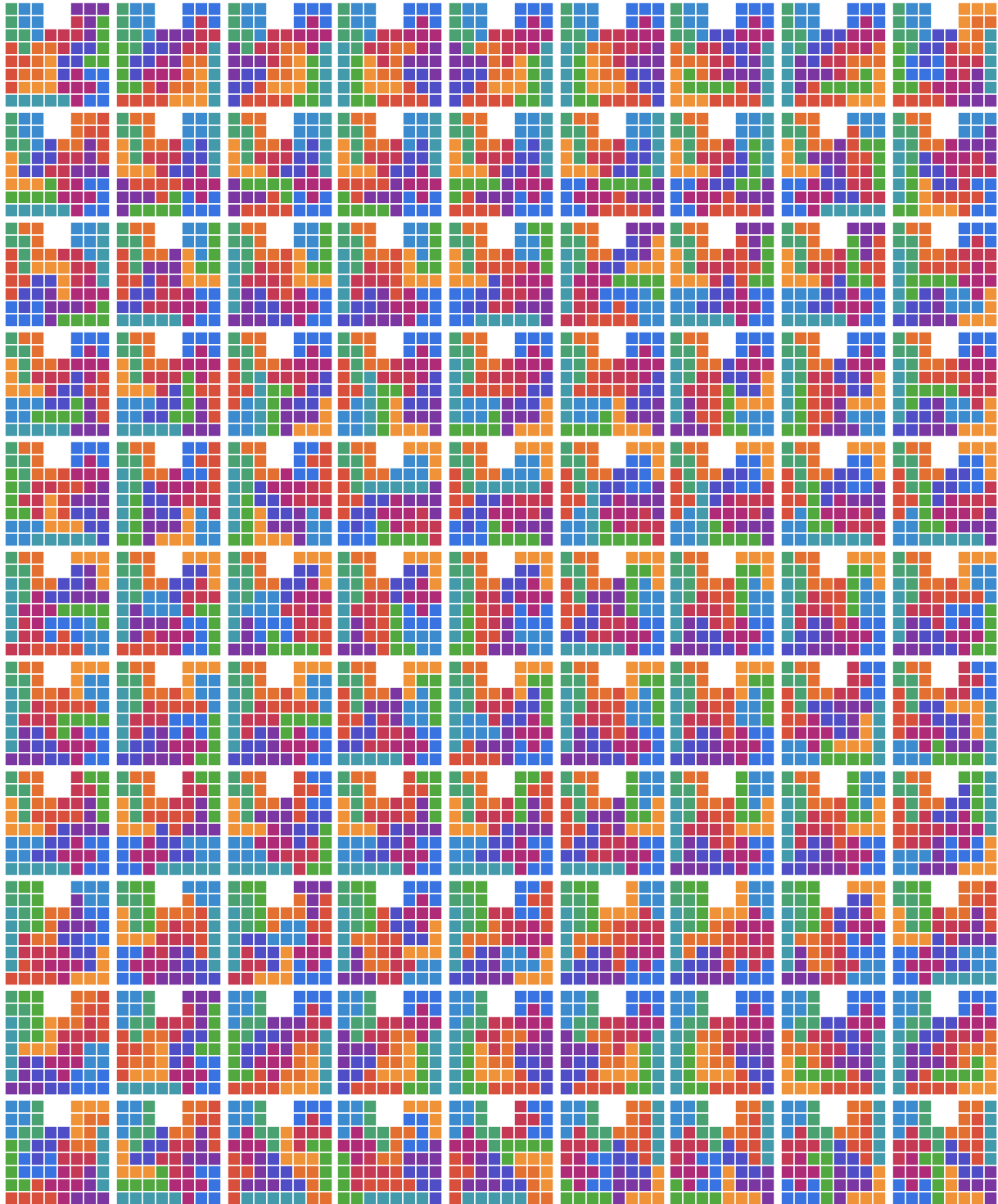


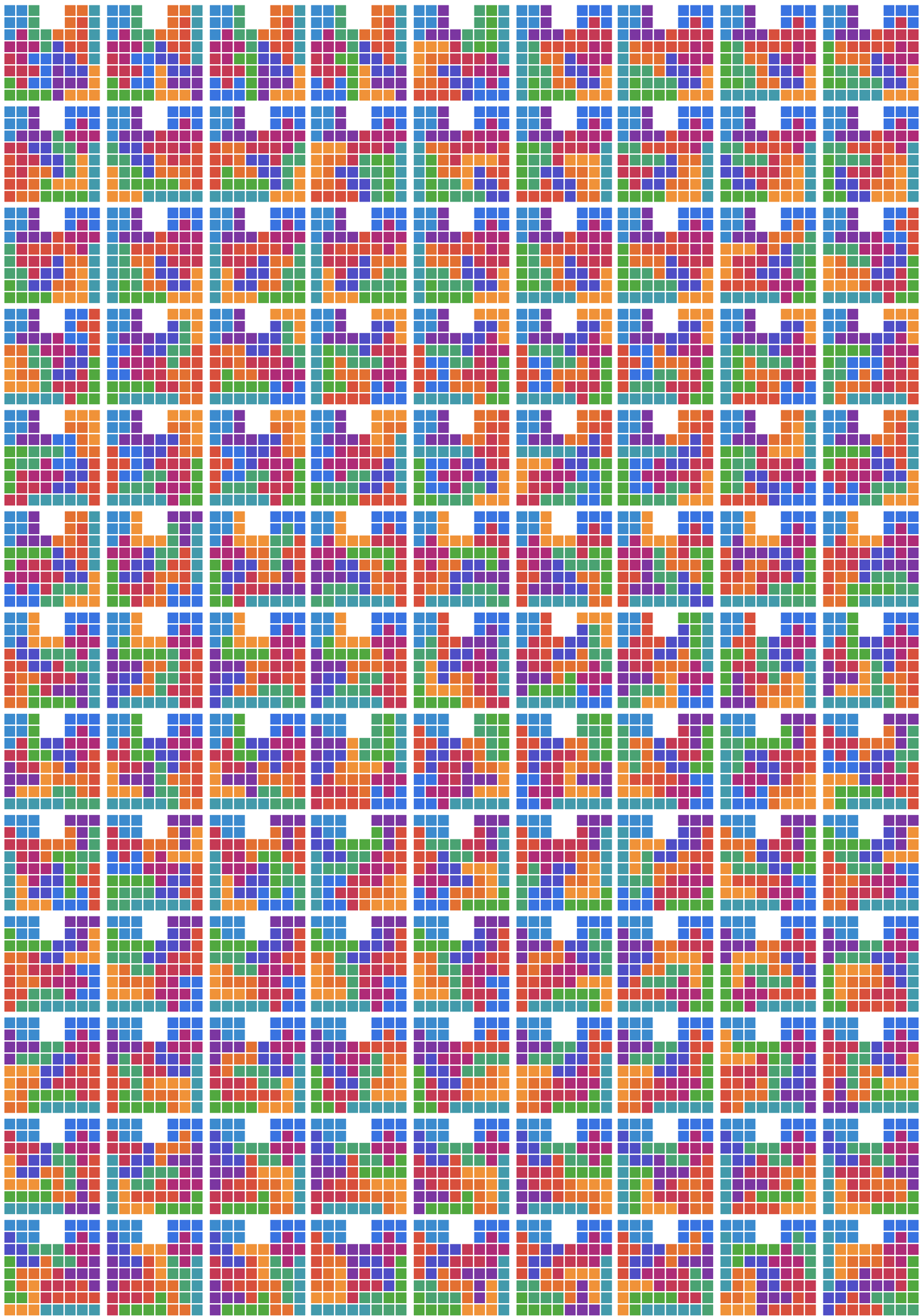


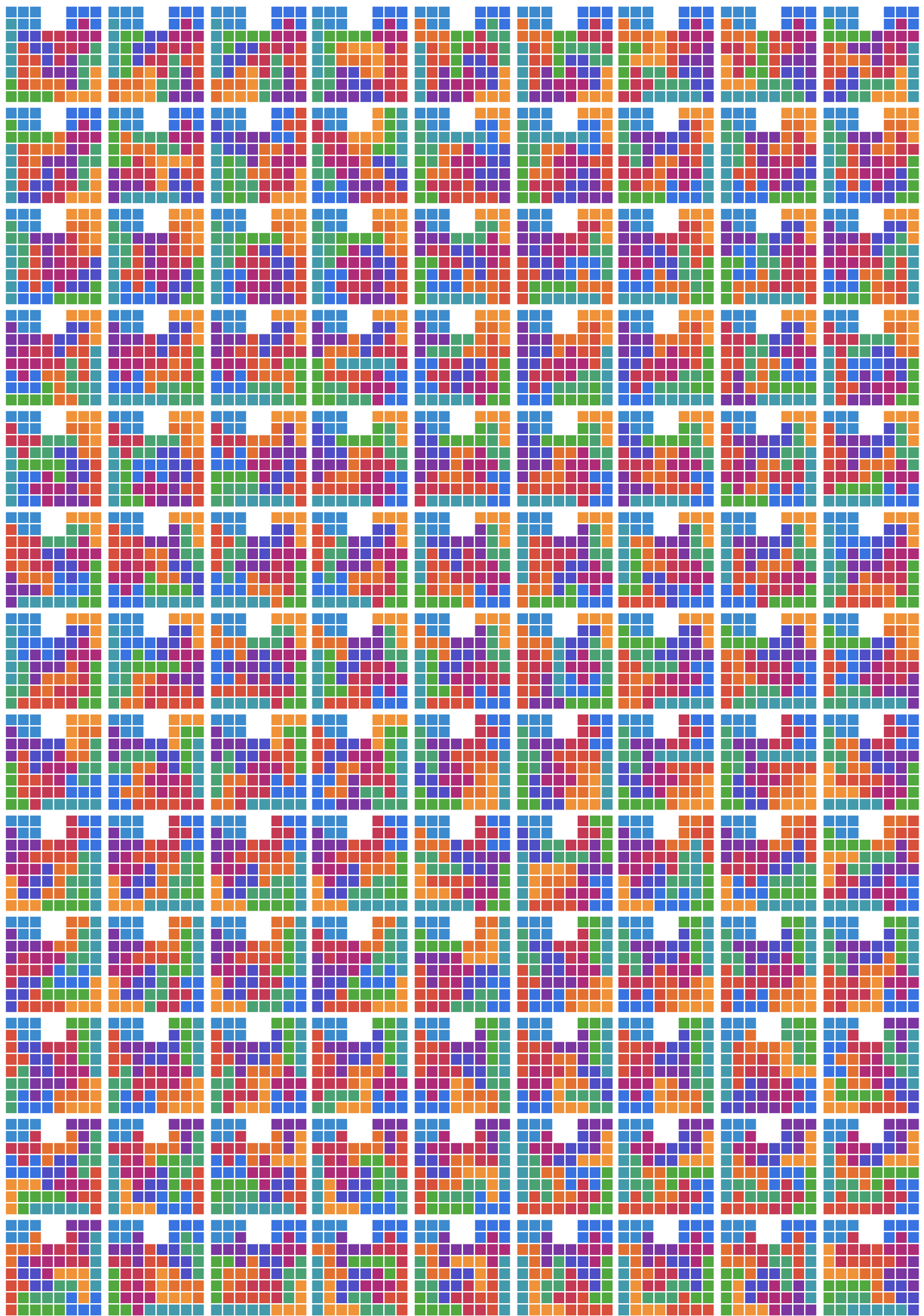


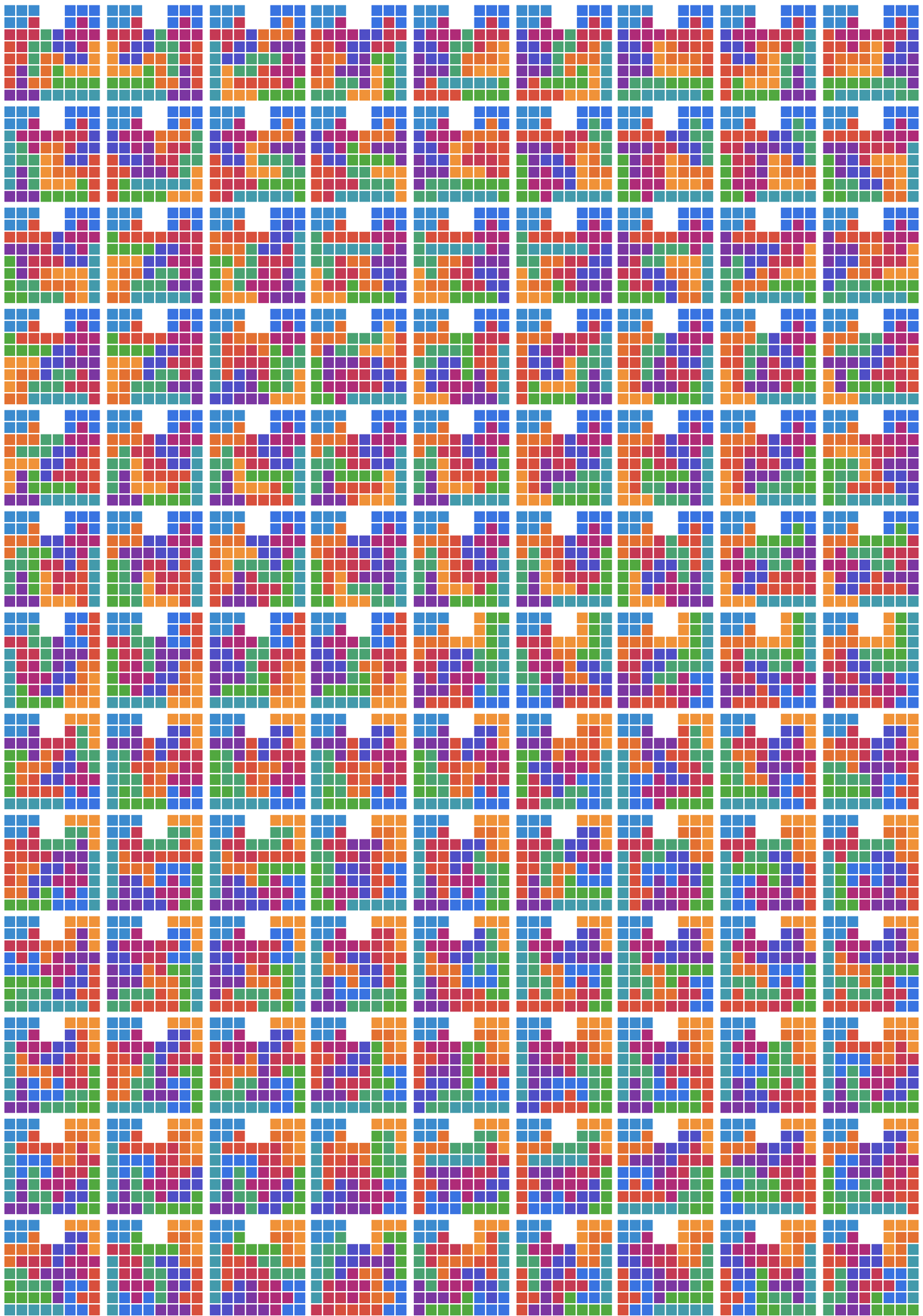
block1.3

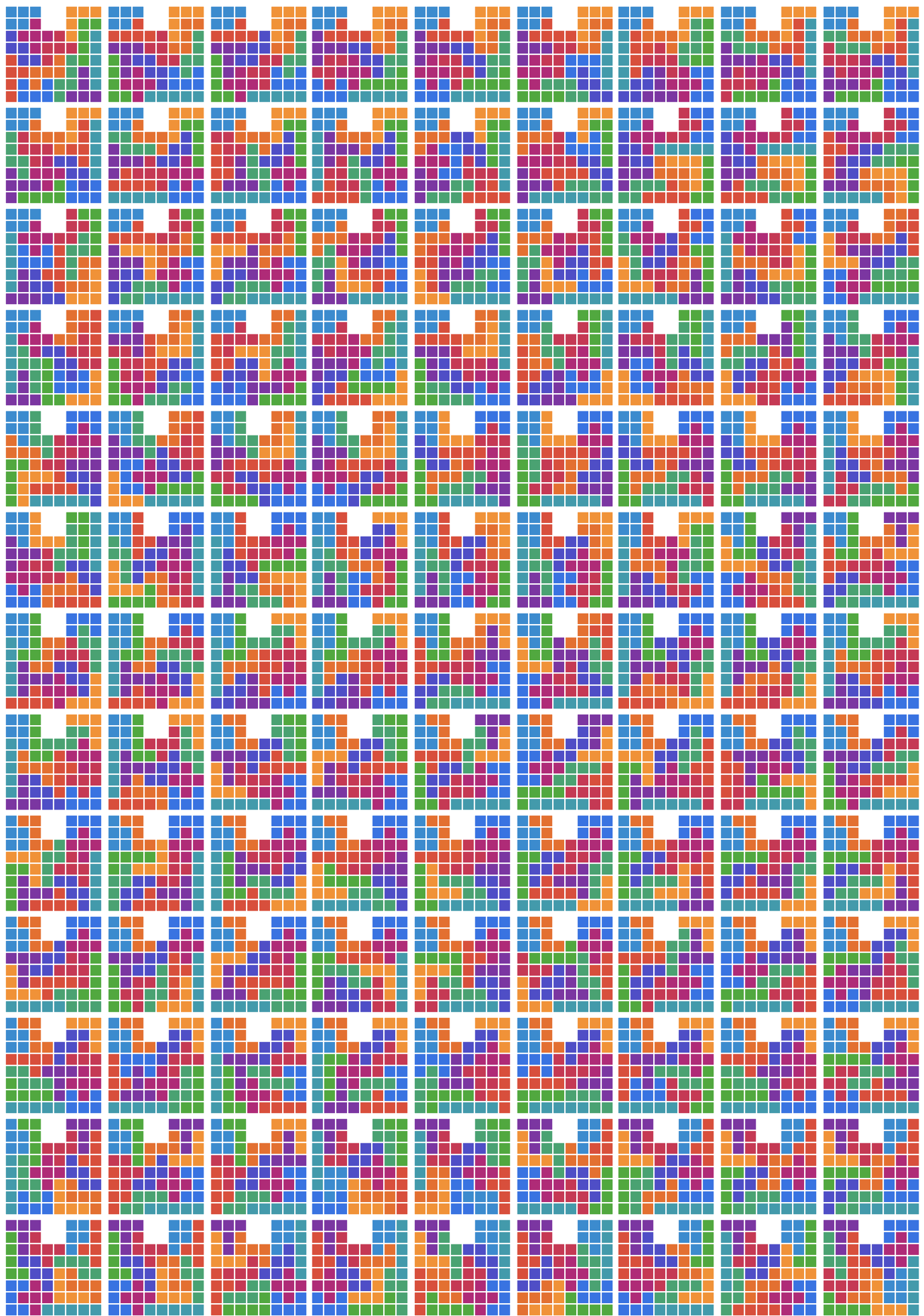
1,288 Solutions

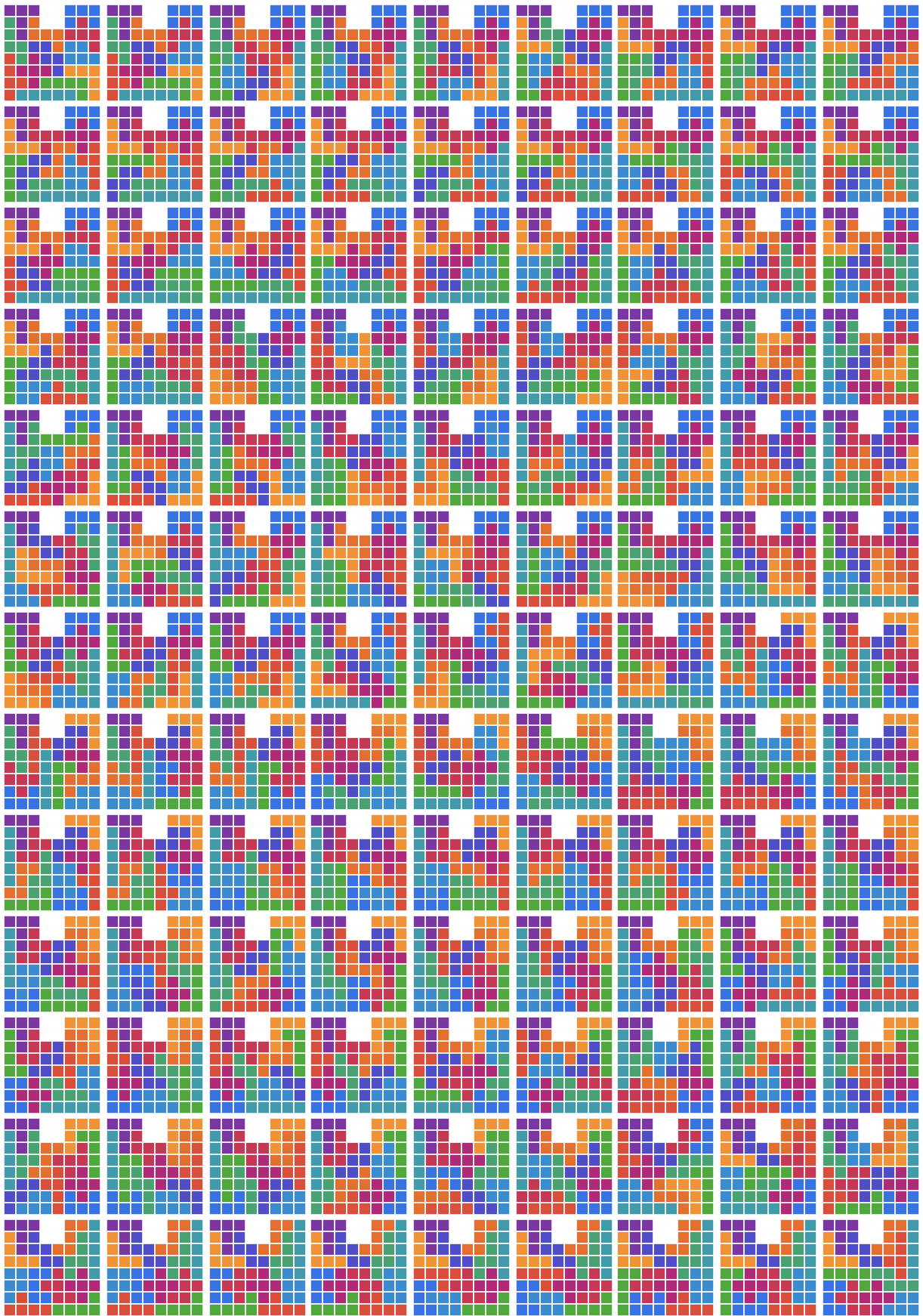


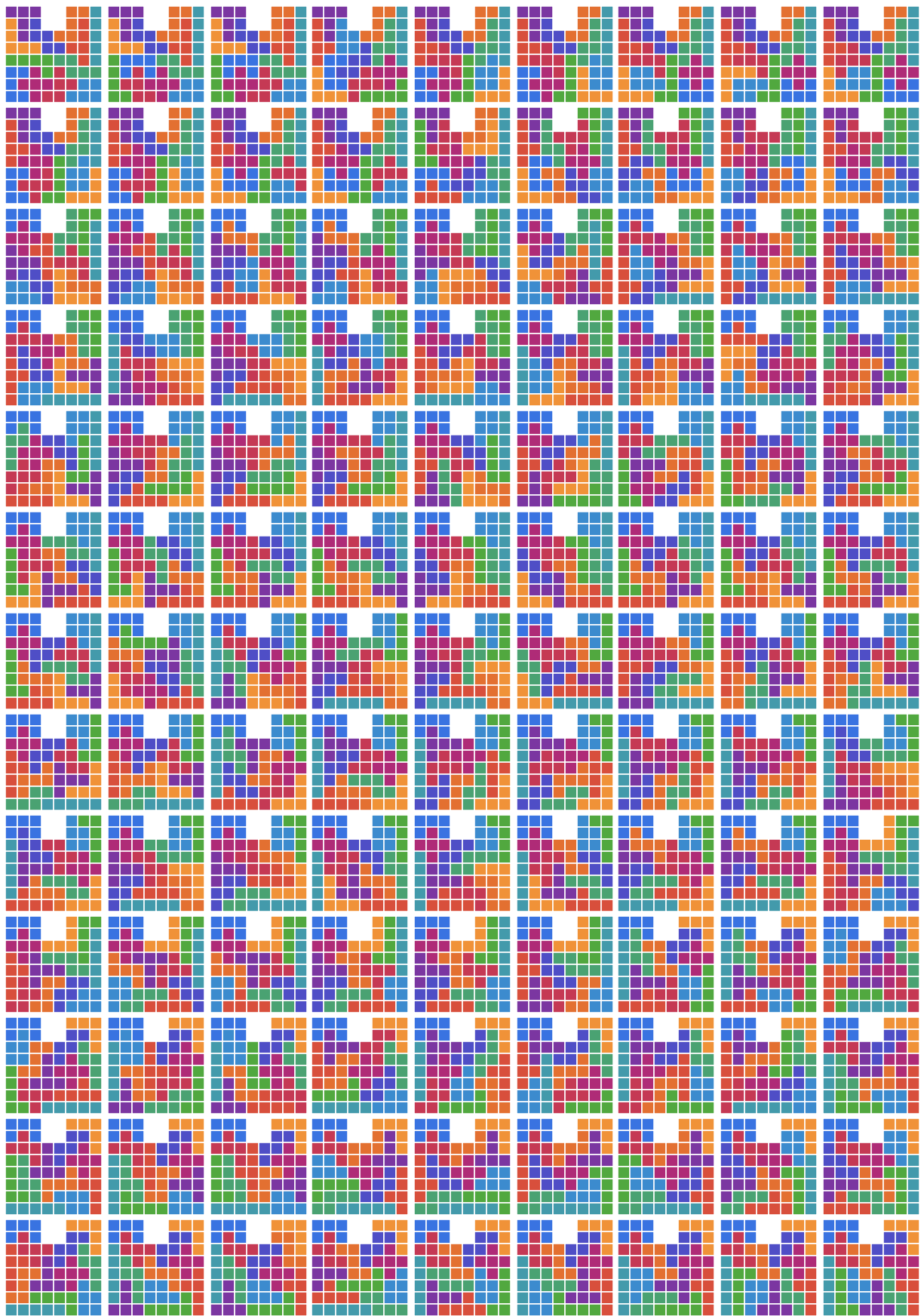


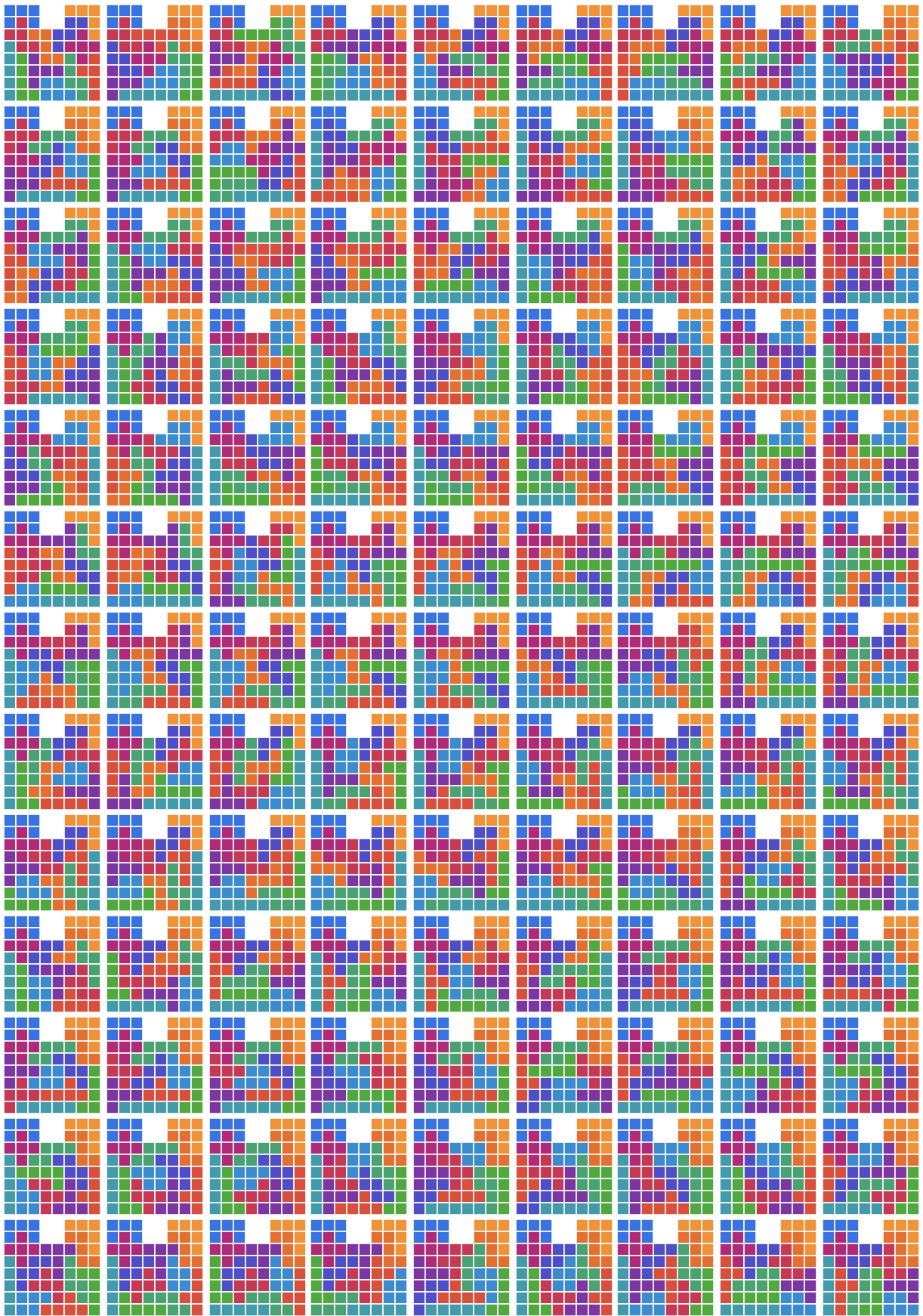


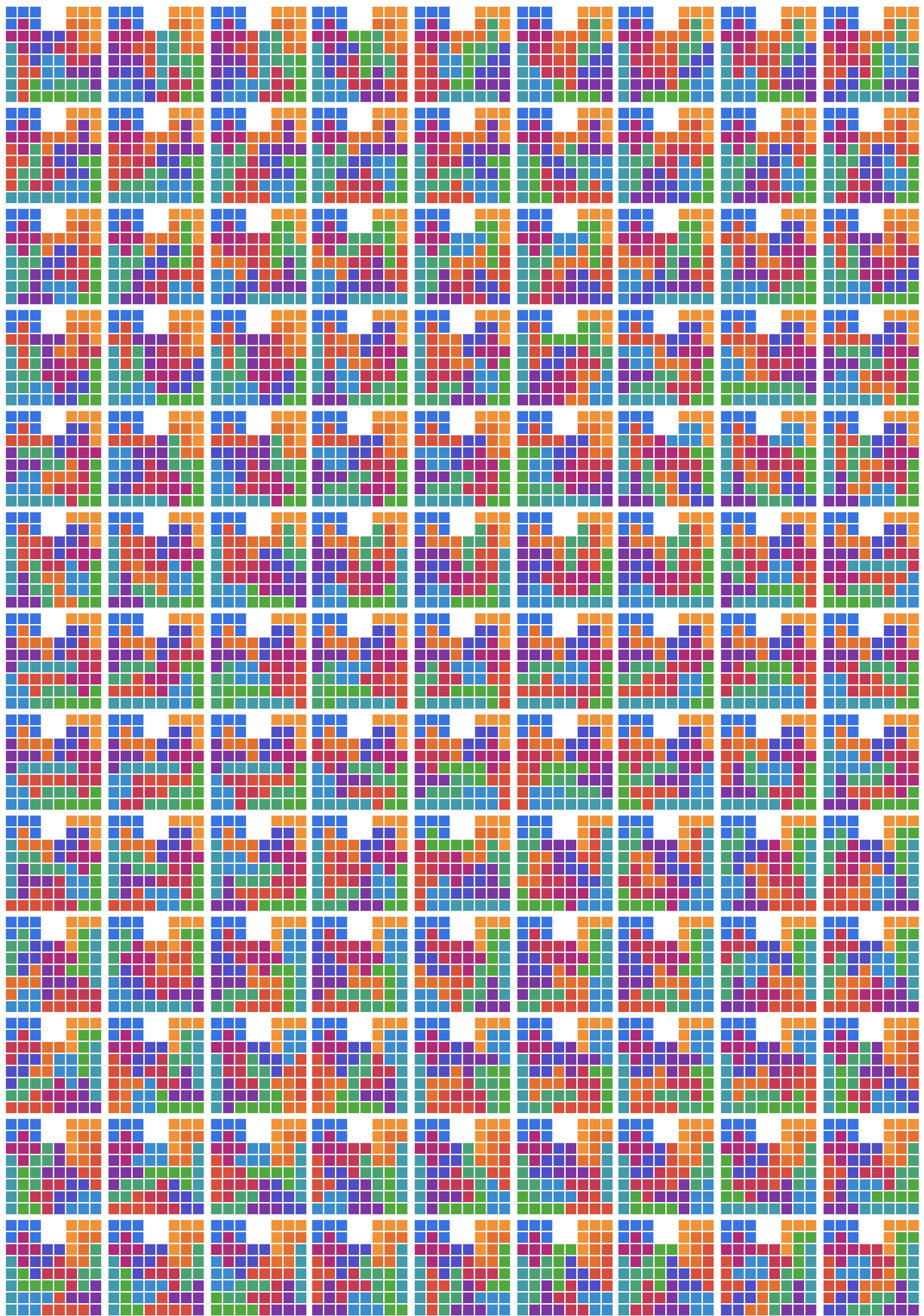


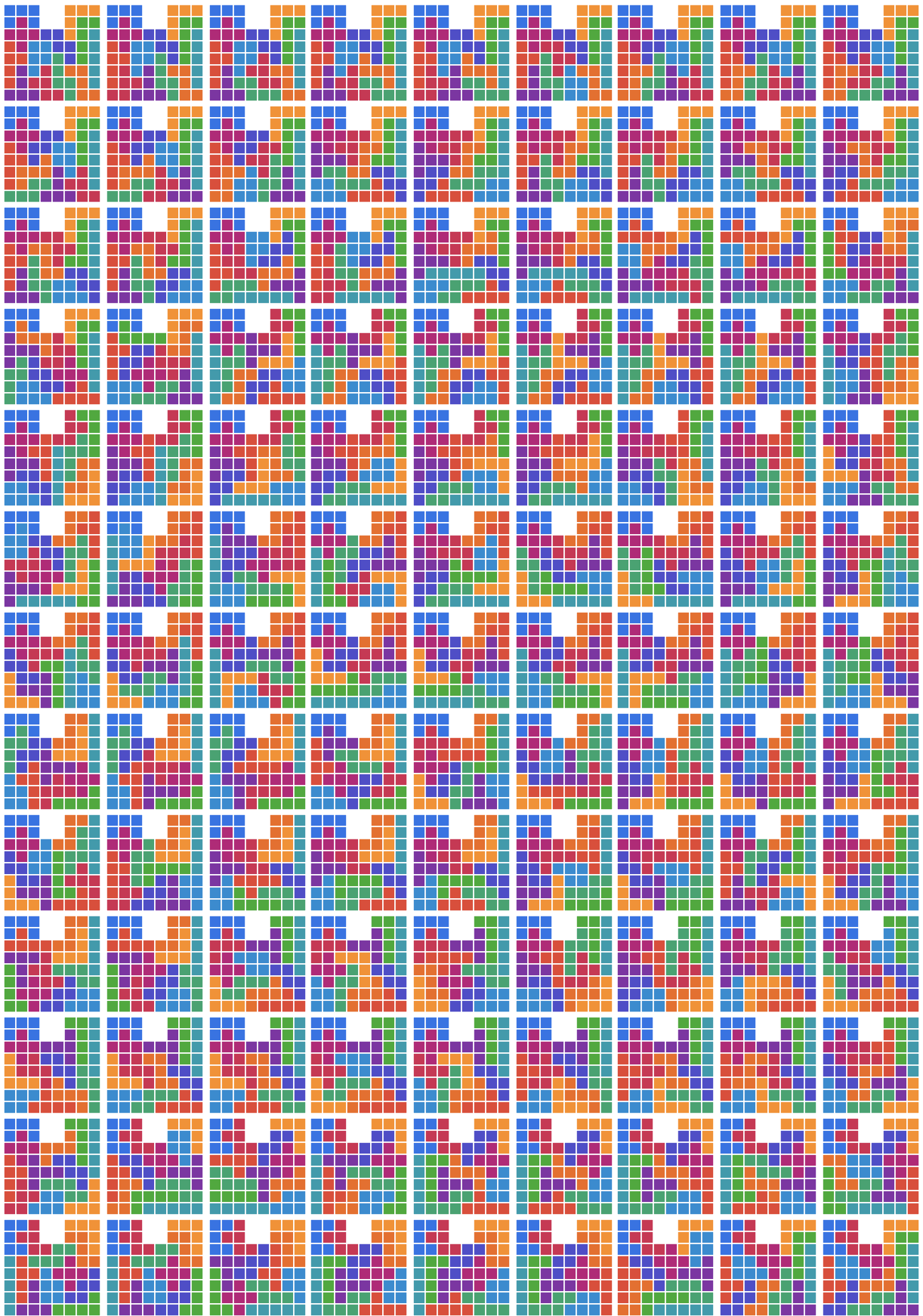


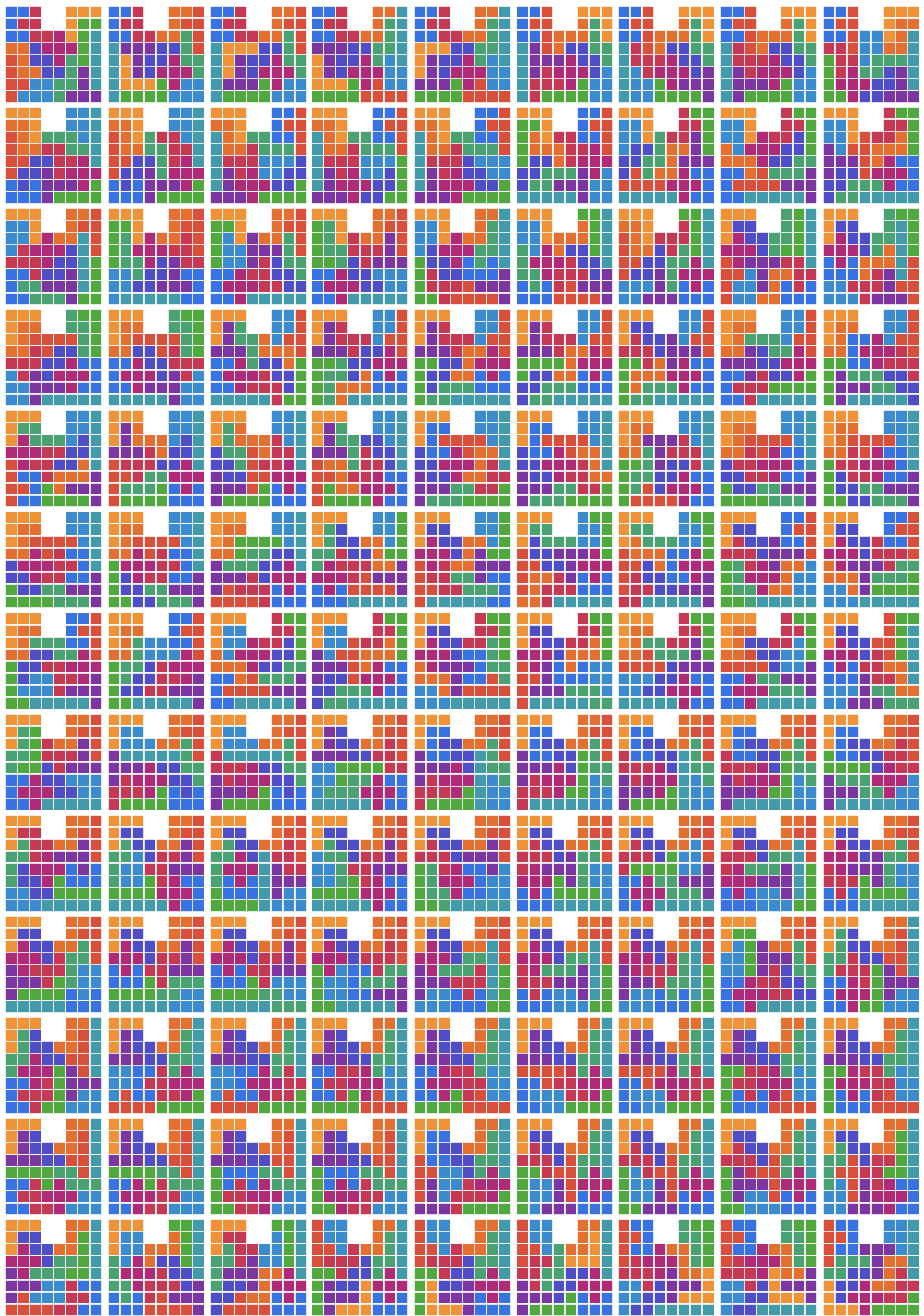


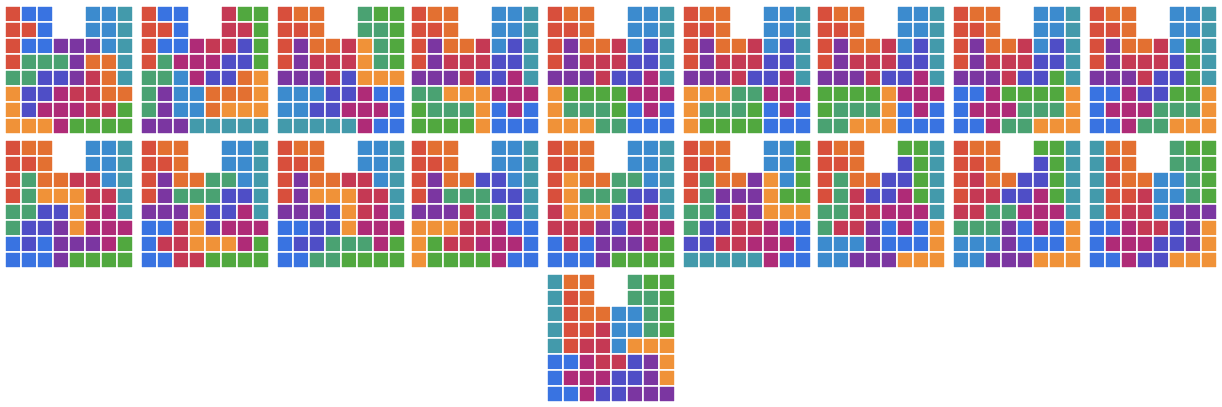






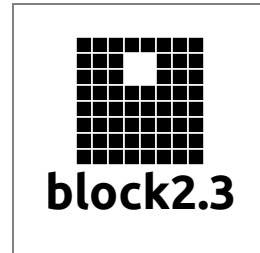
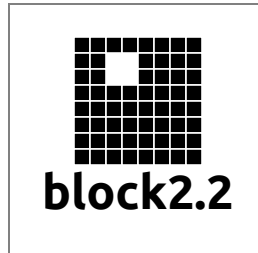
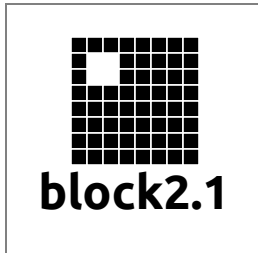


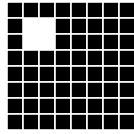




Four Square 3

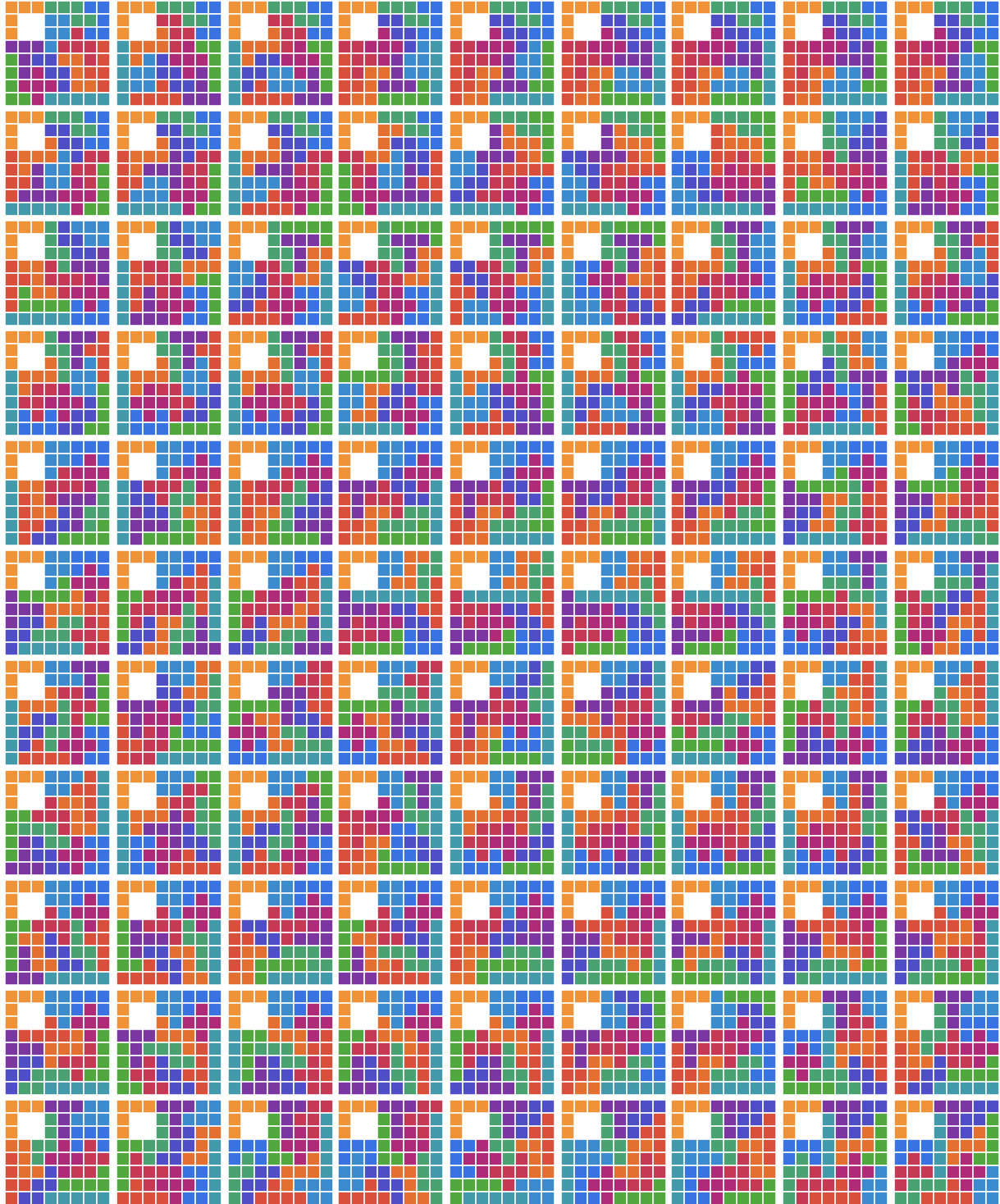
Several possible solutions to Dudeney's puzzle are included here, but with one piece missing: The pieces as shown in Dudeney's puzzle must form a proper chessboard when assembled!

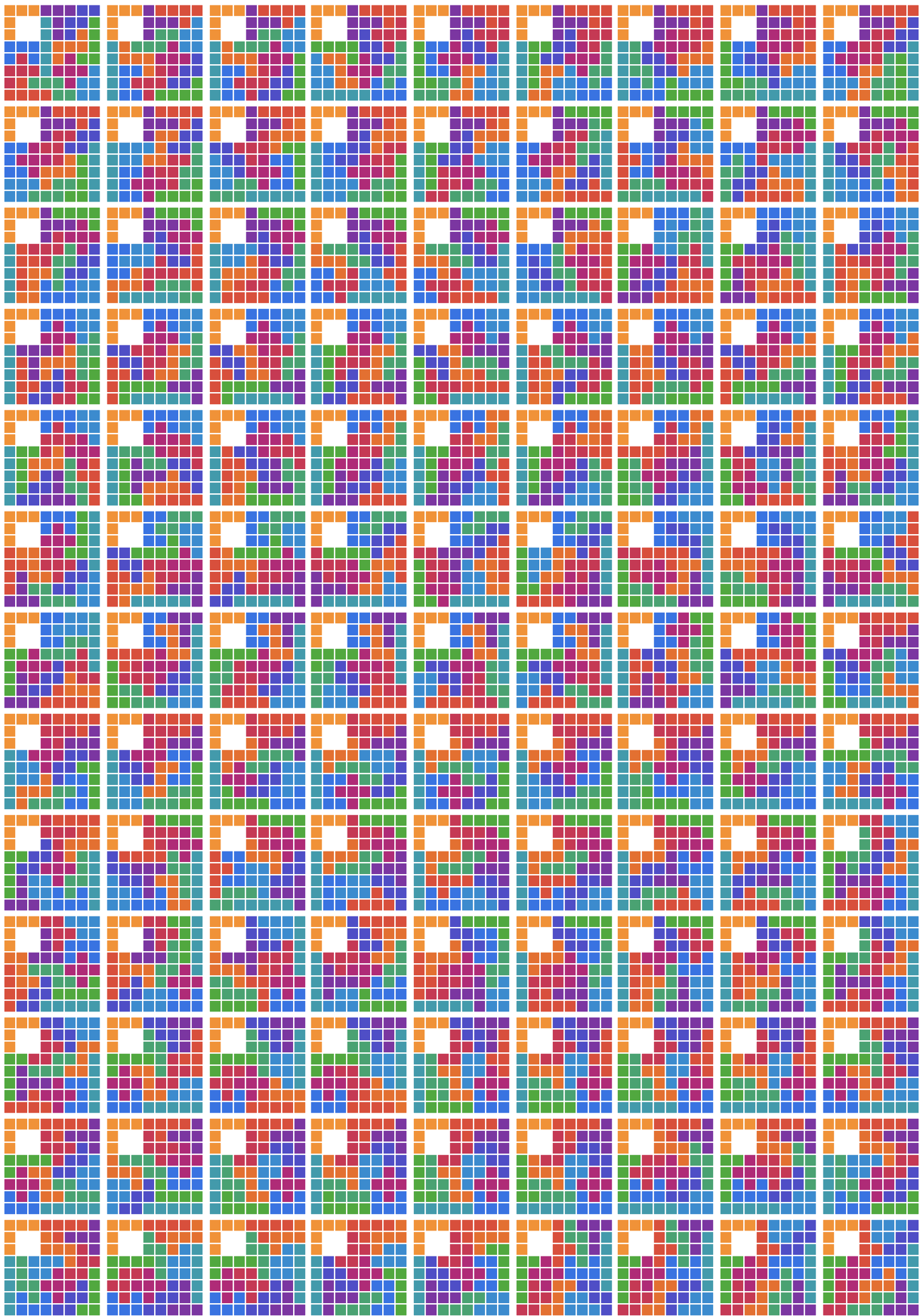


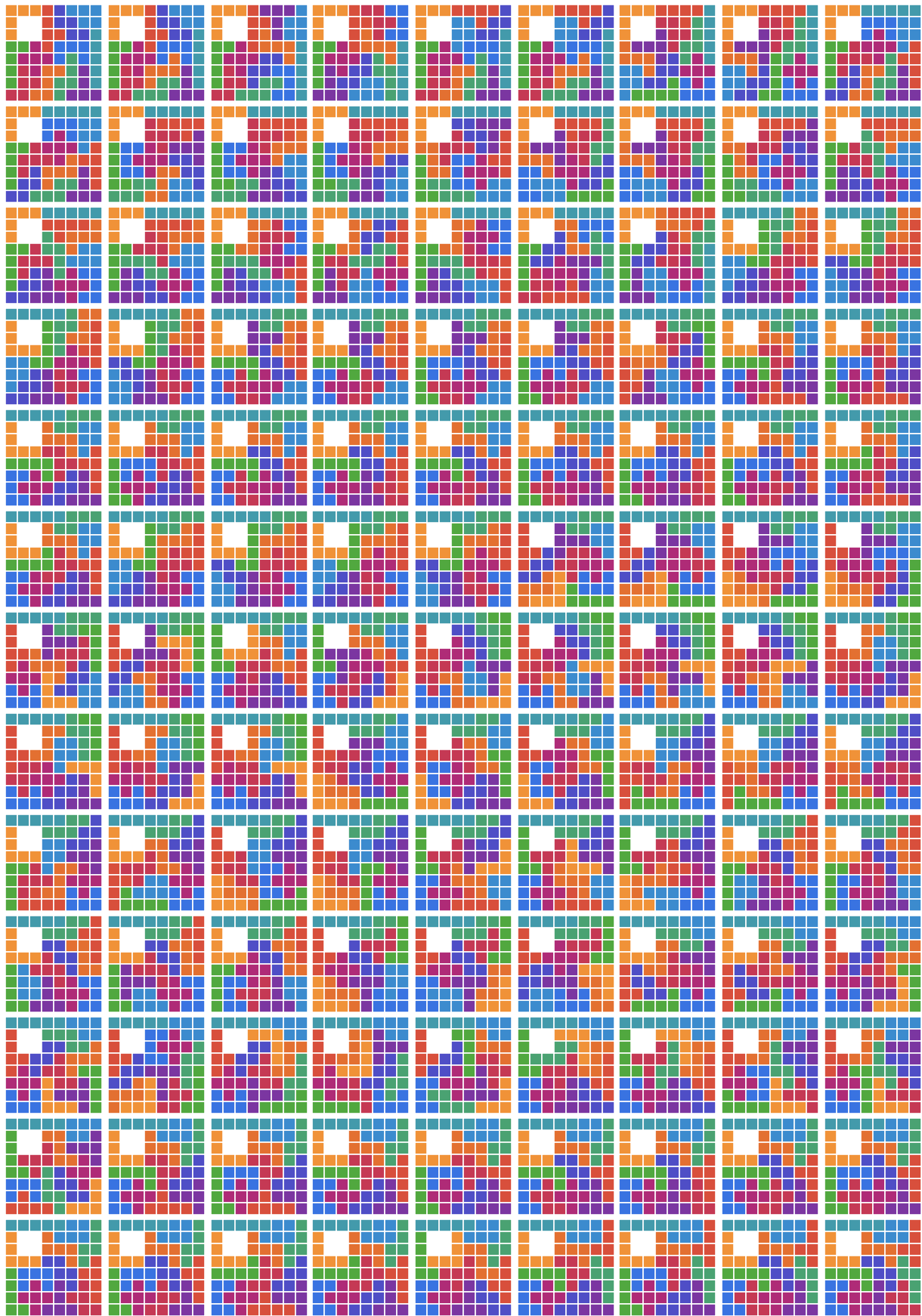


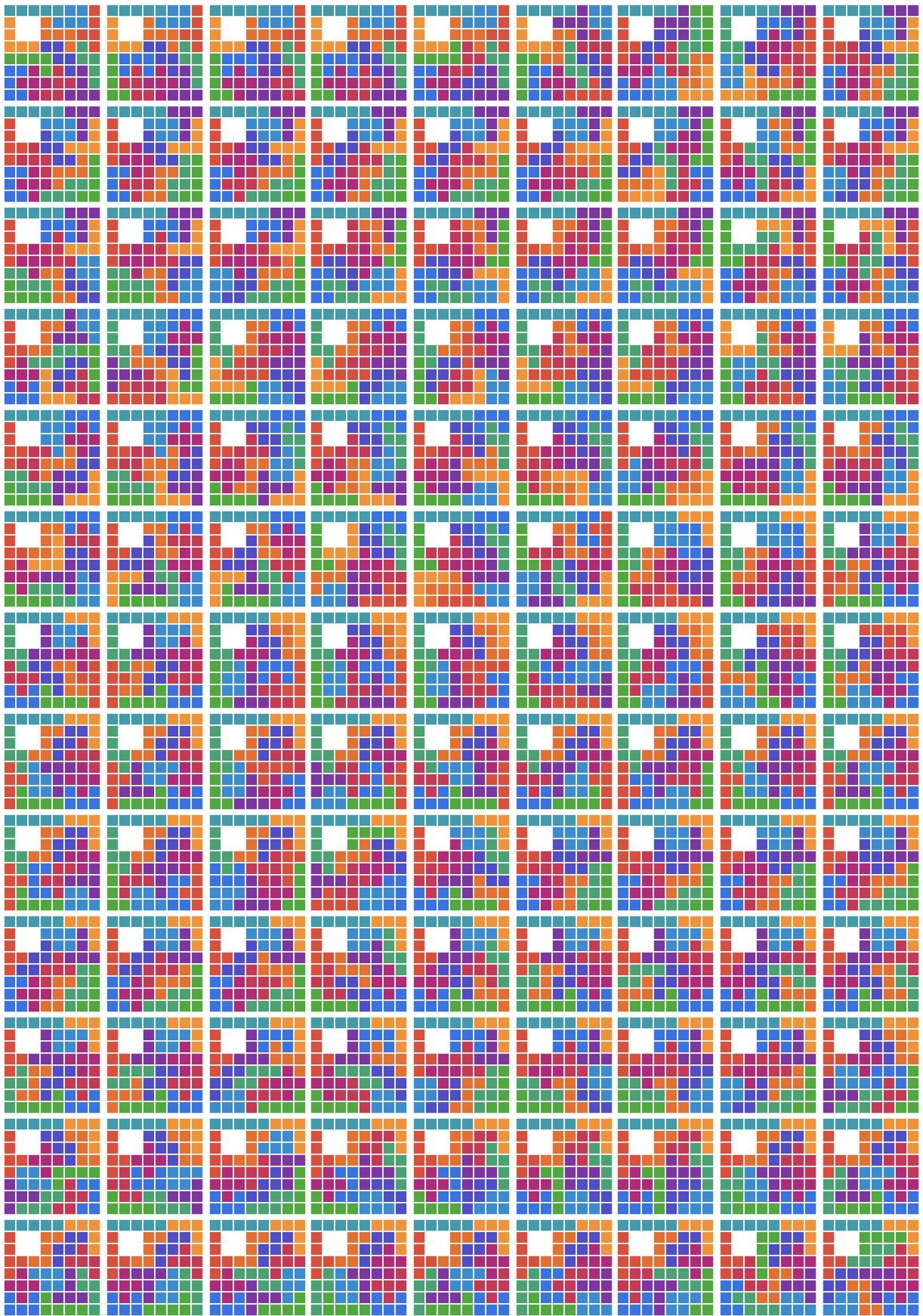
block2.1

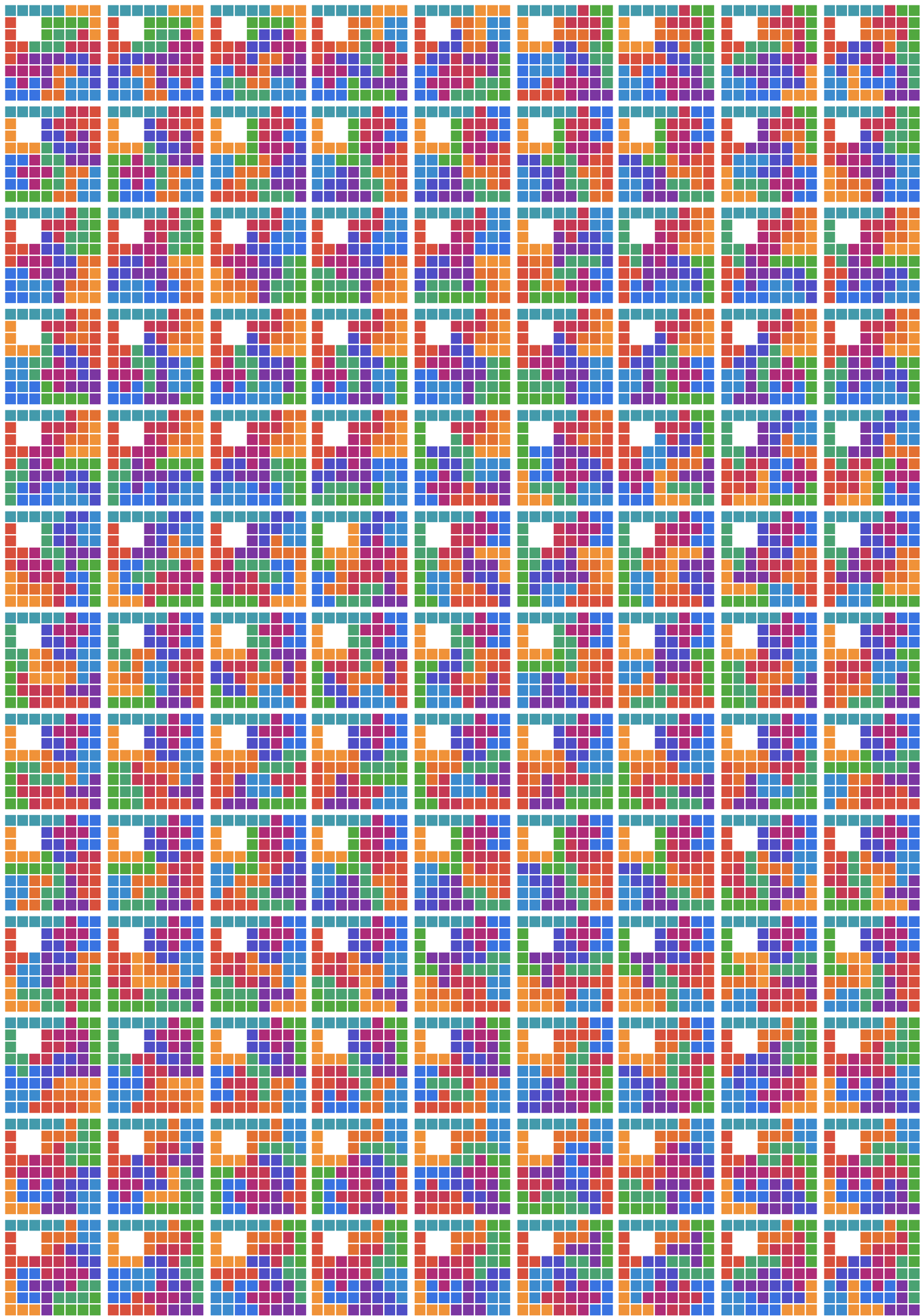
987 Solutions

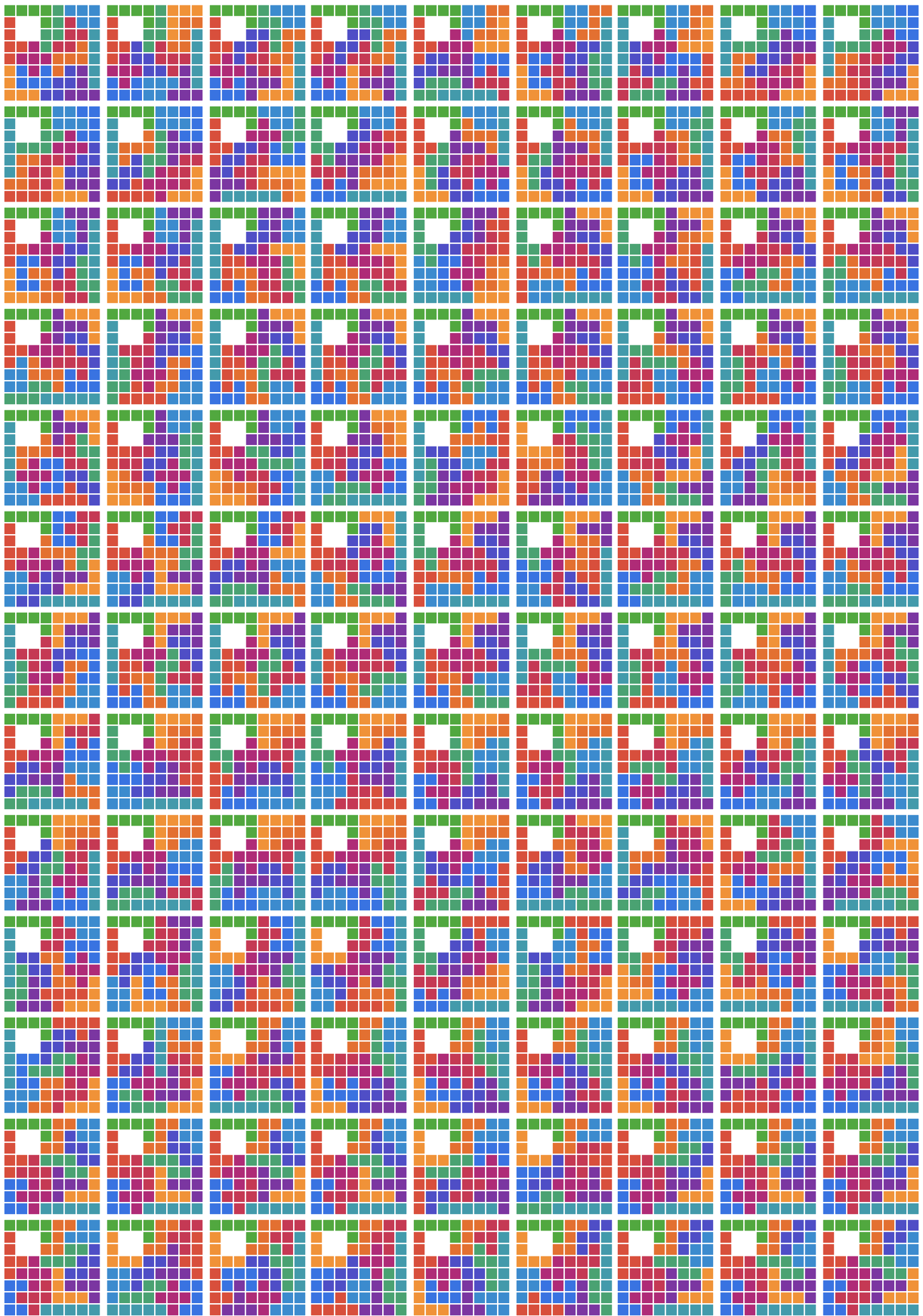


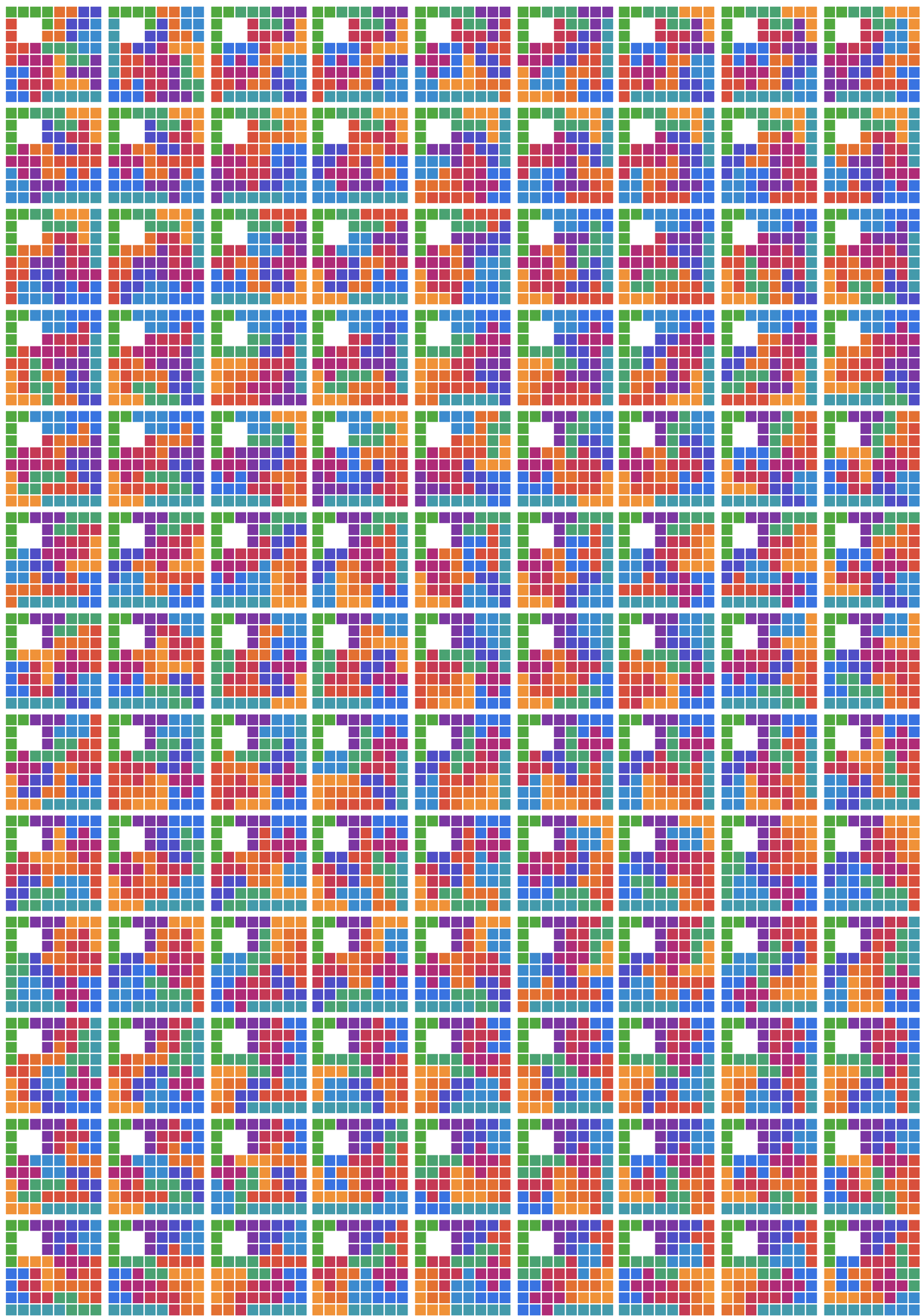


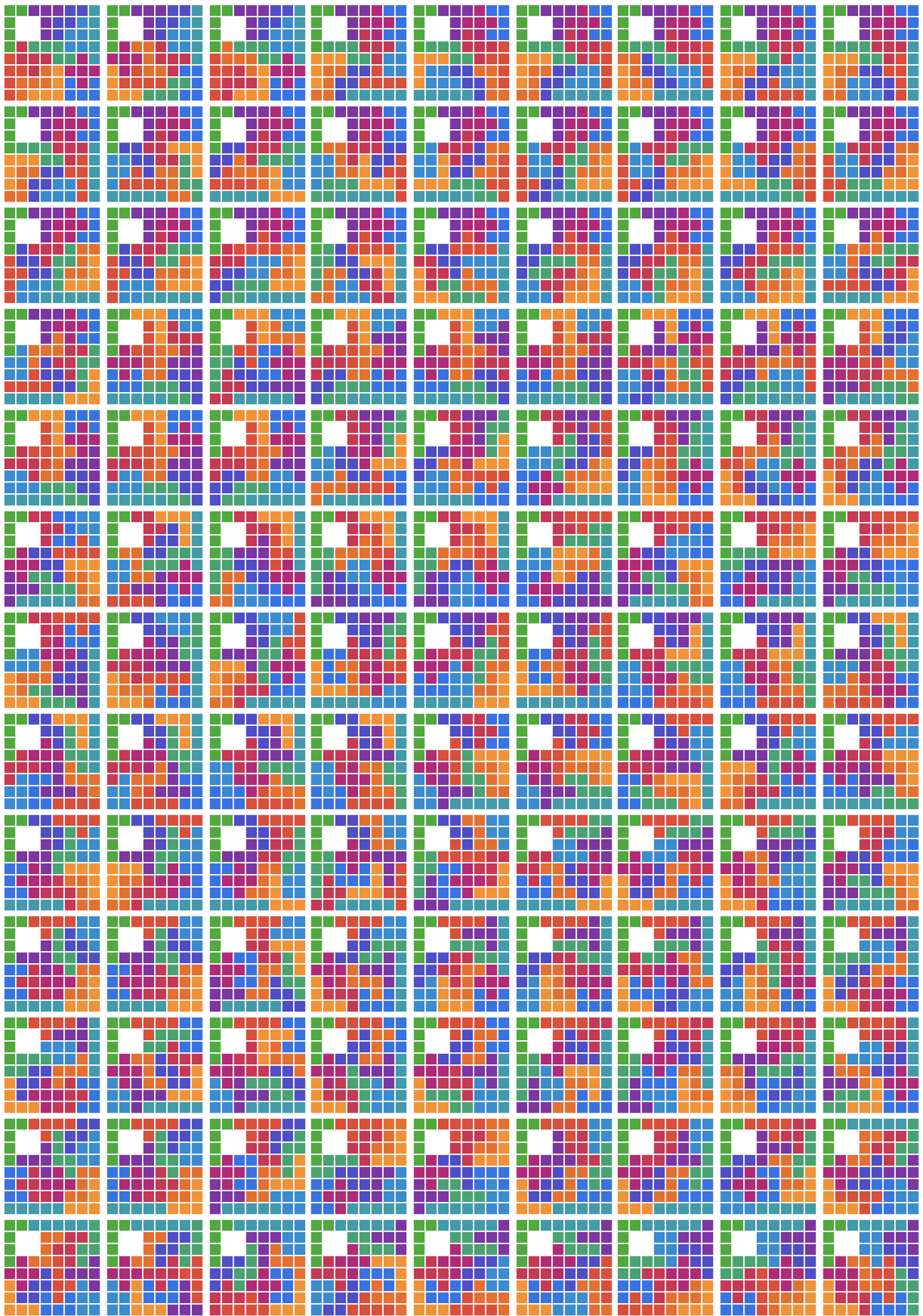


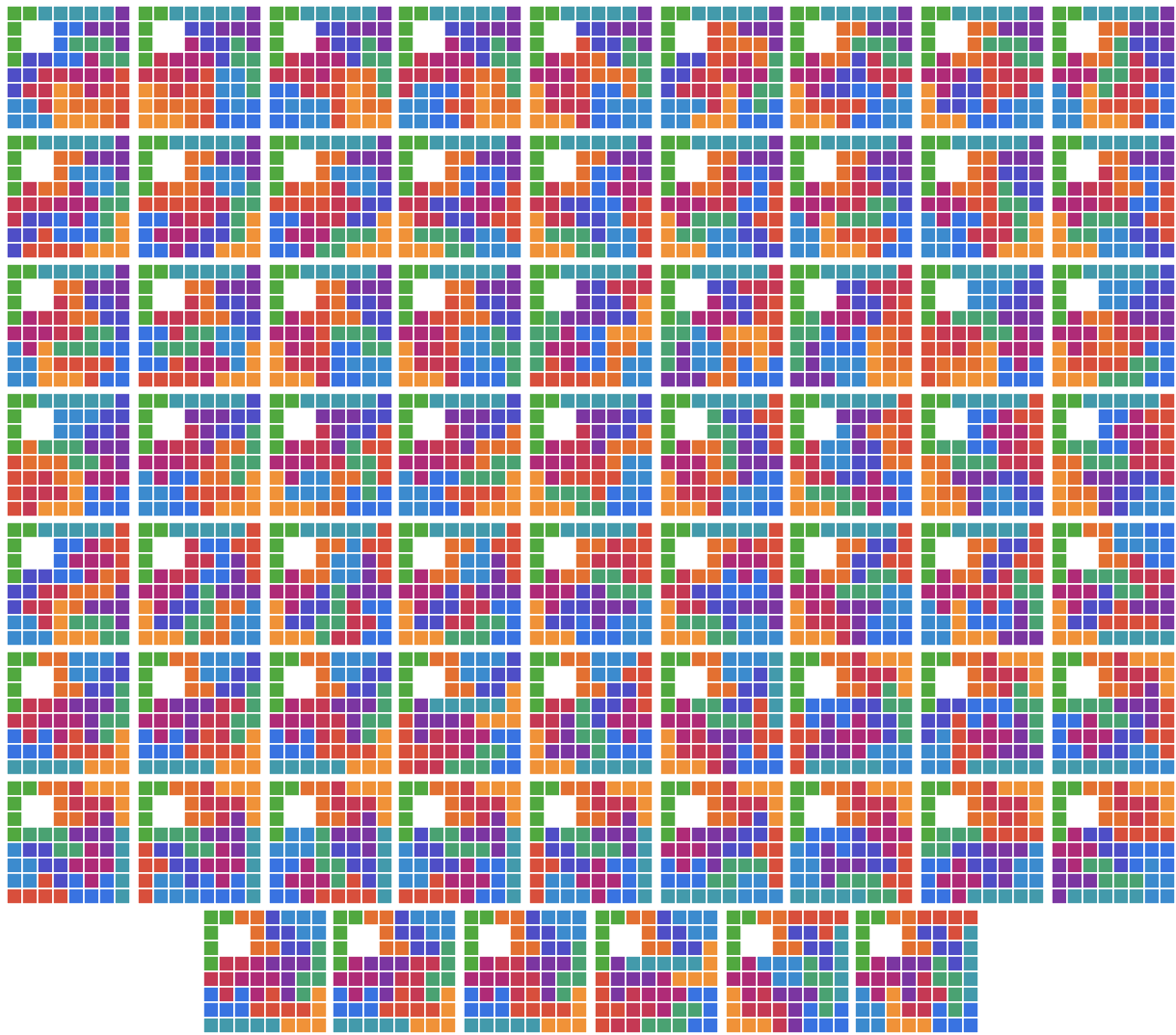


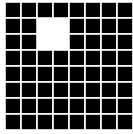






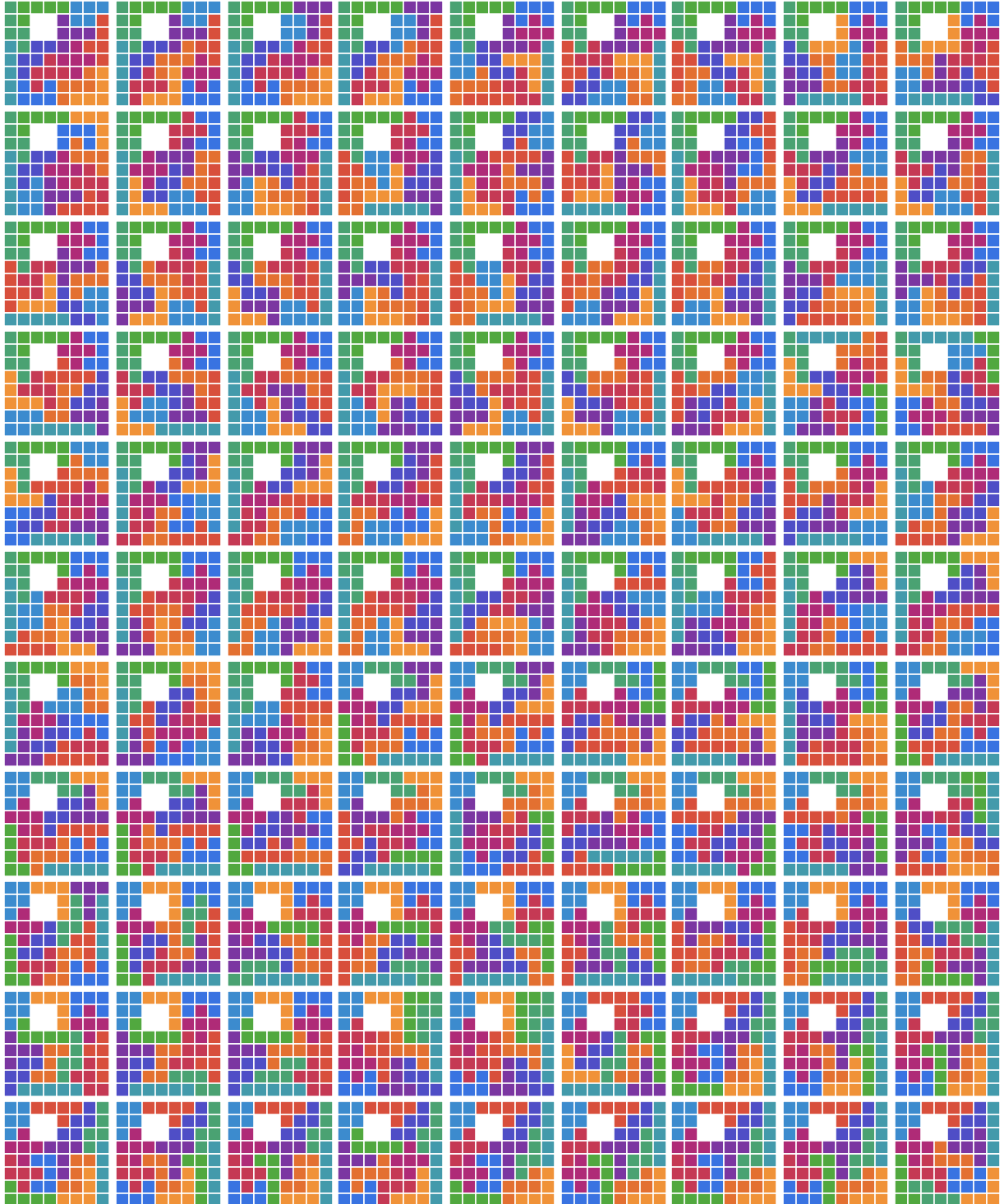


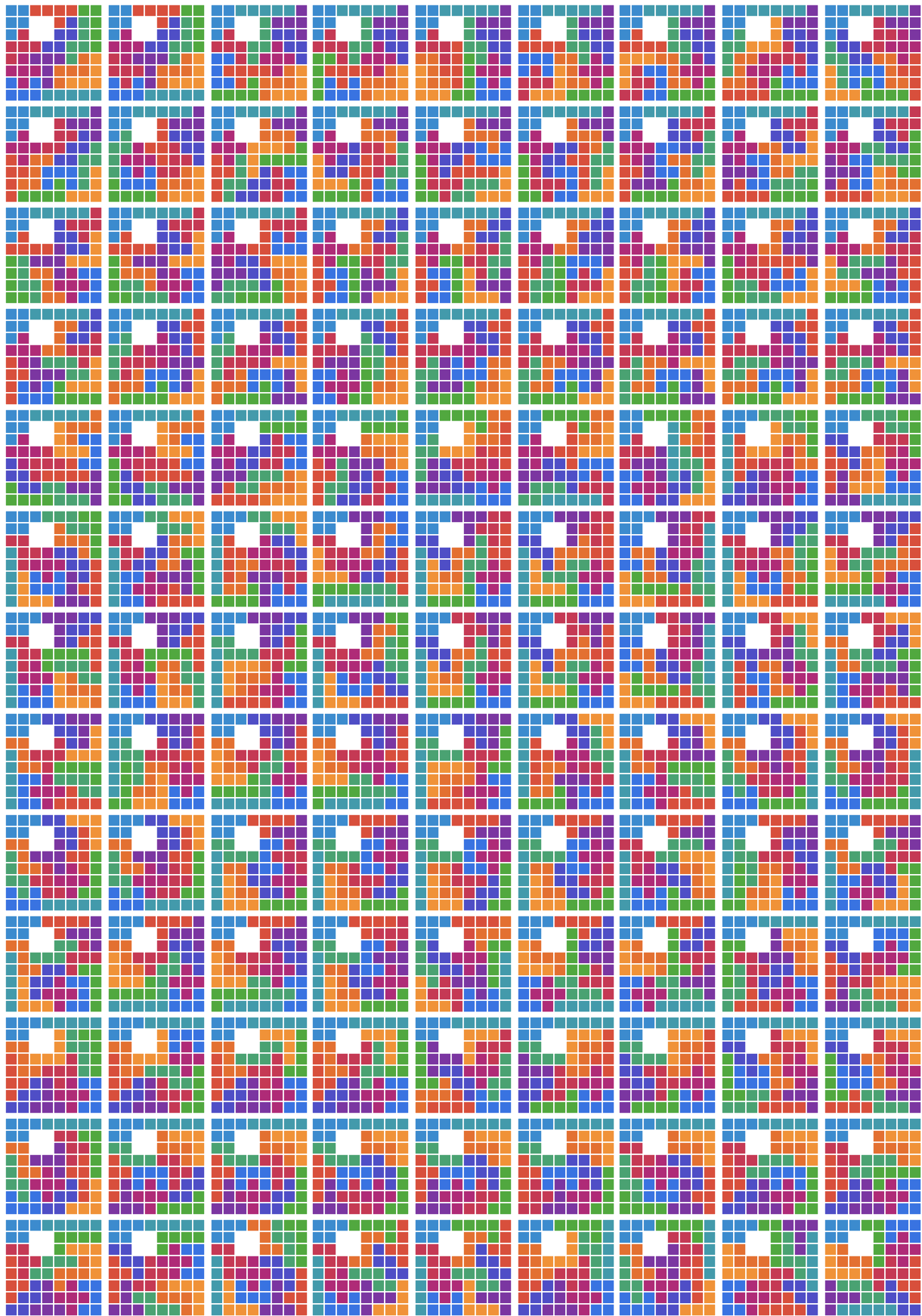


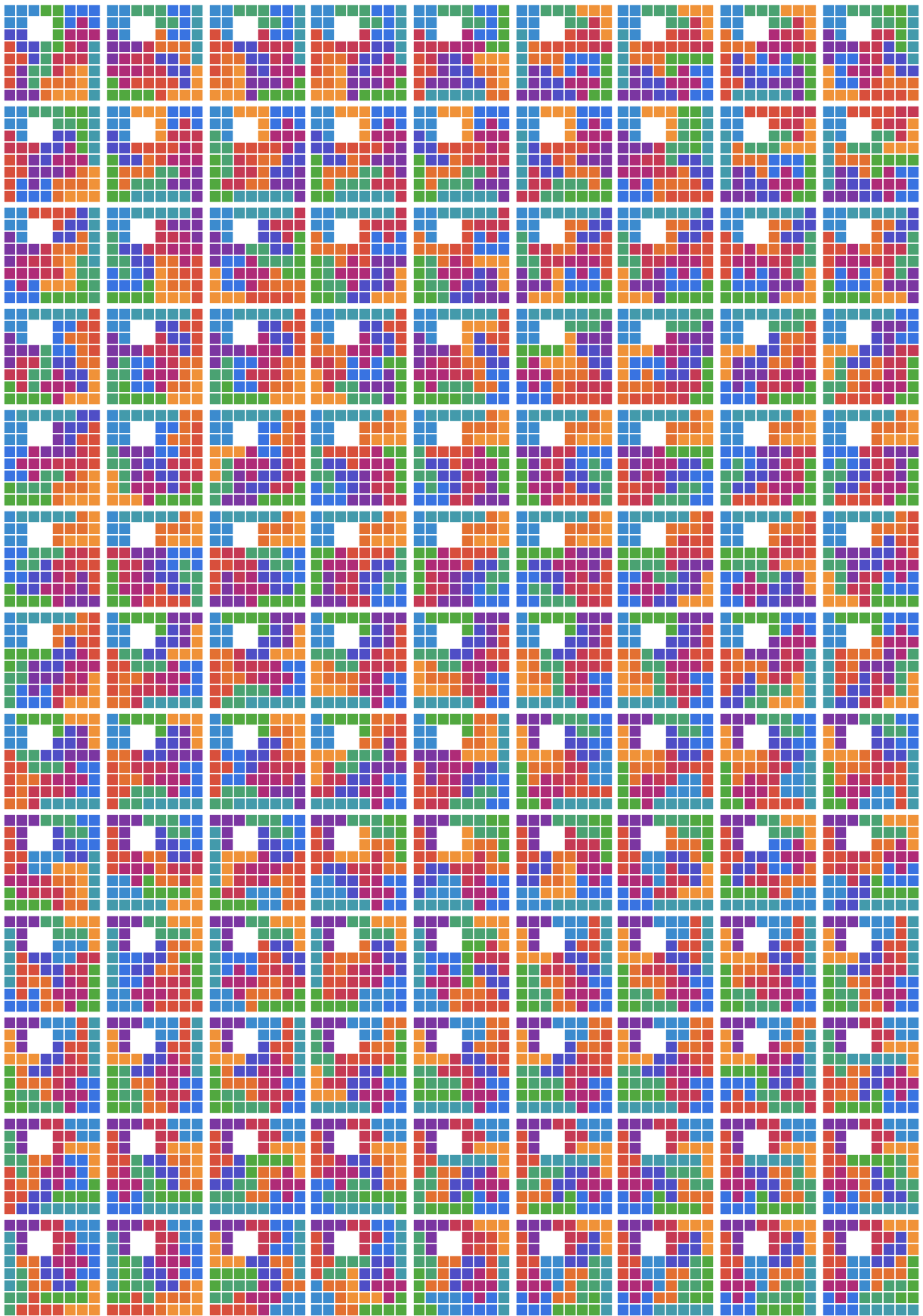


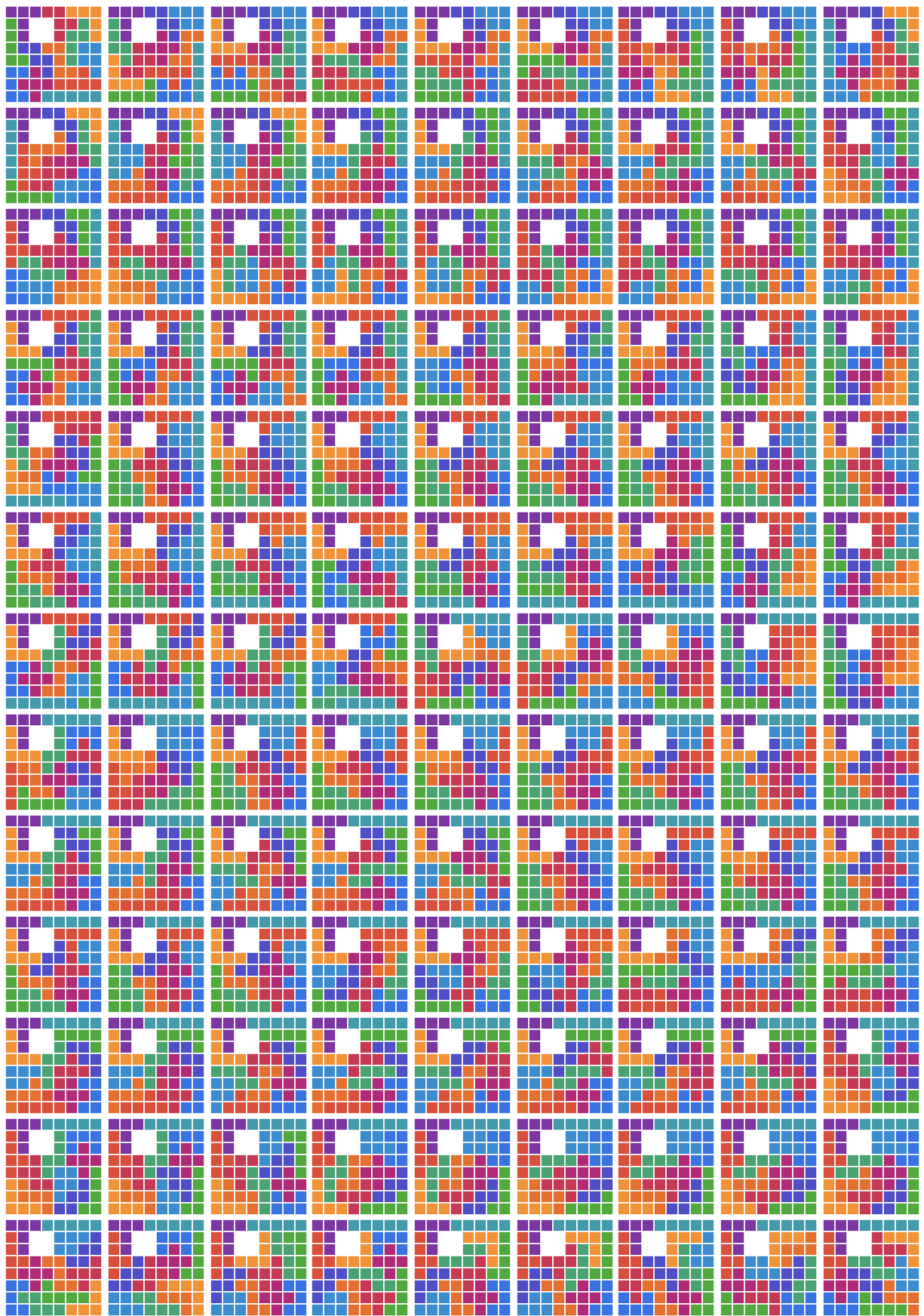
block2.2

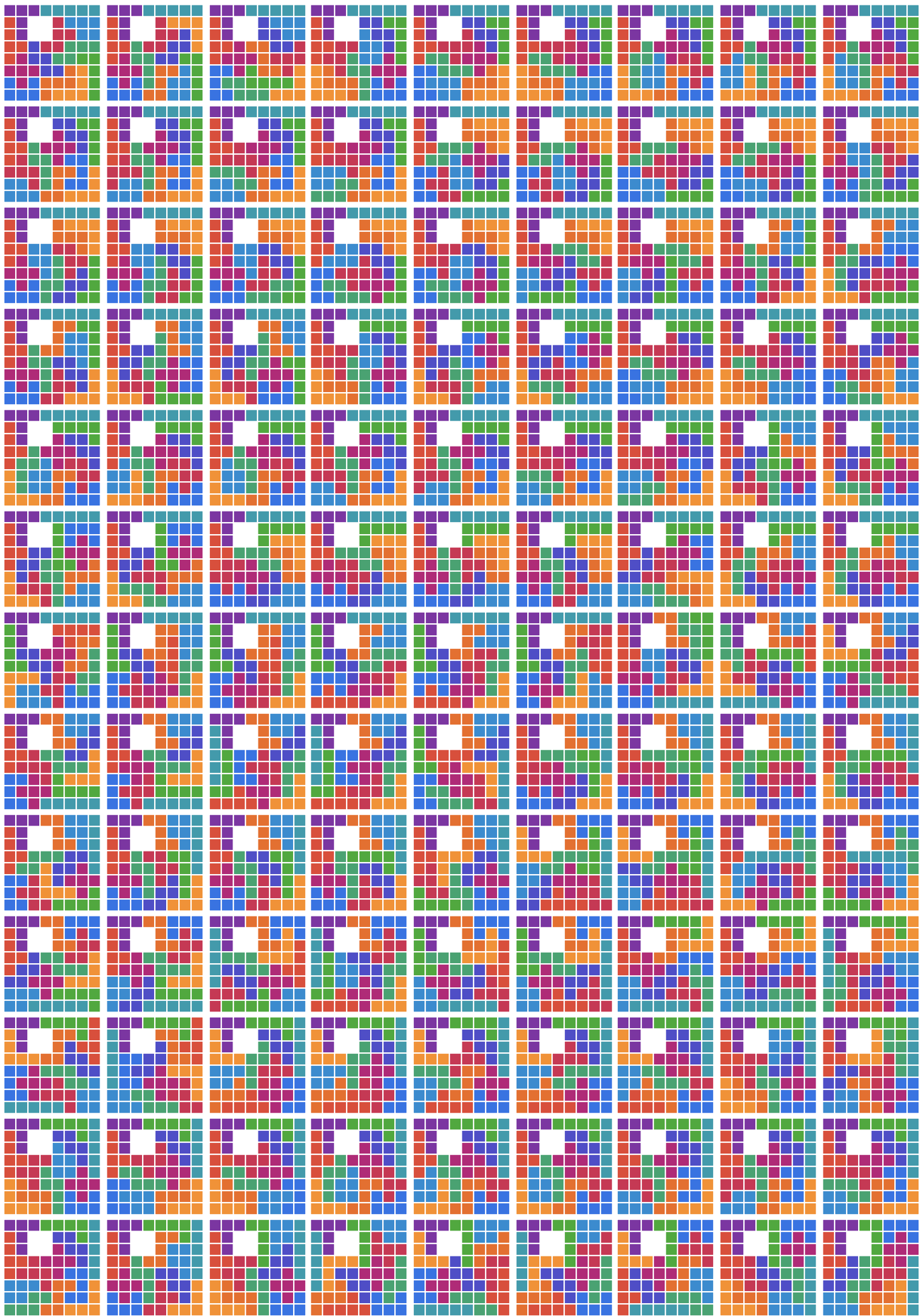
1,662 Solutions

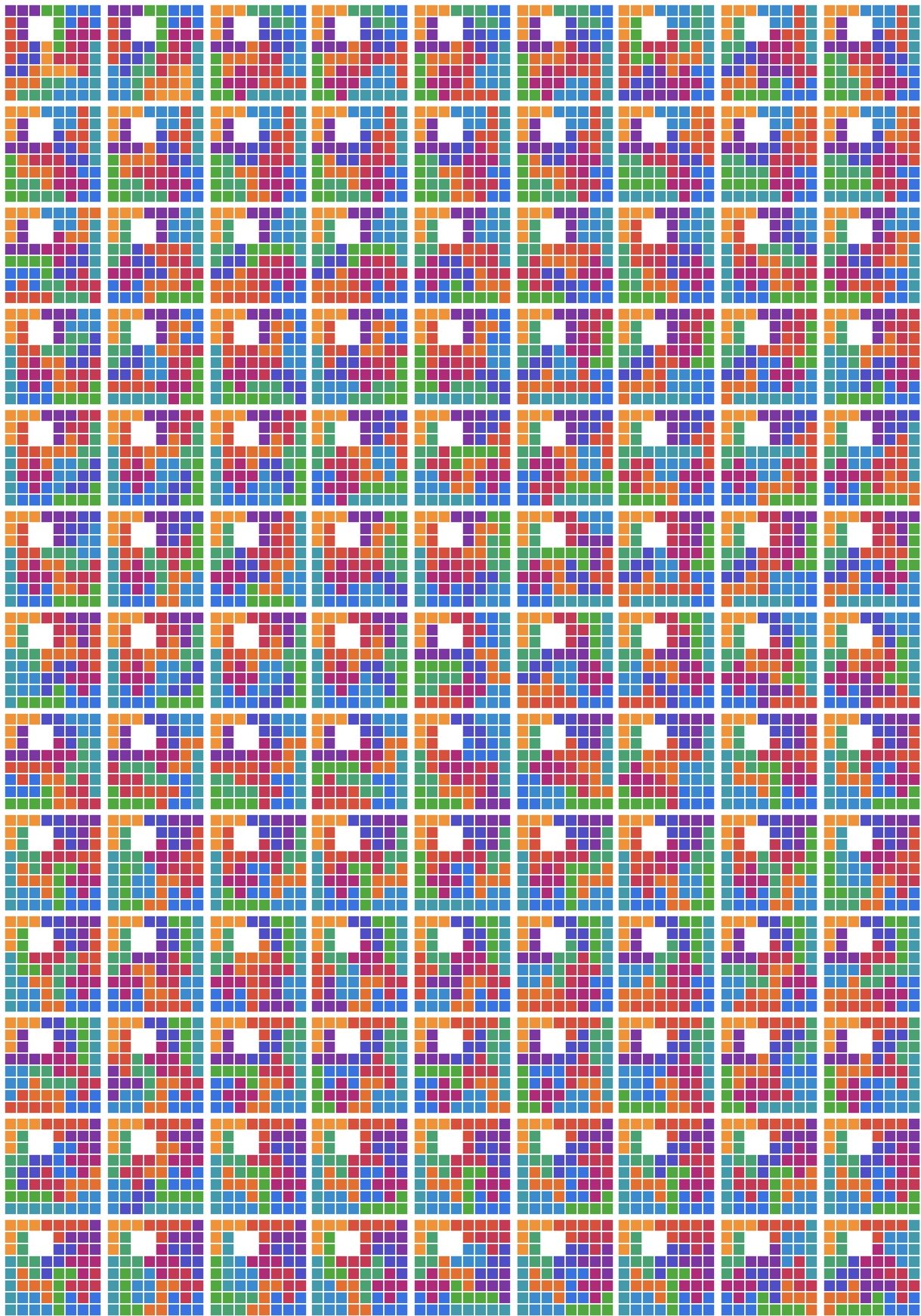


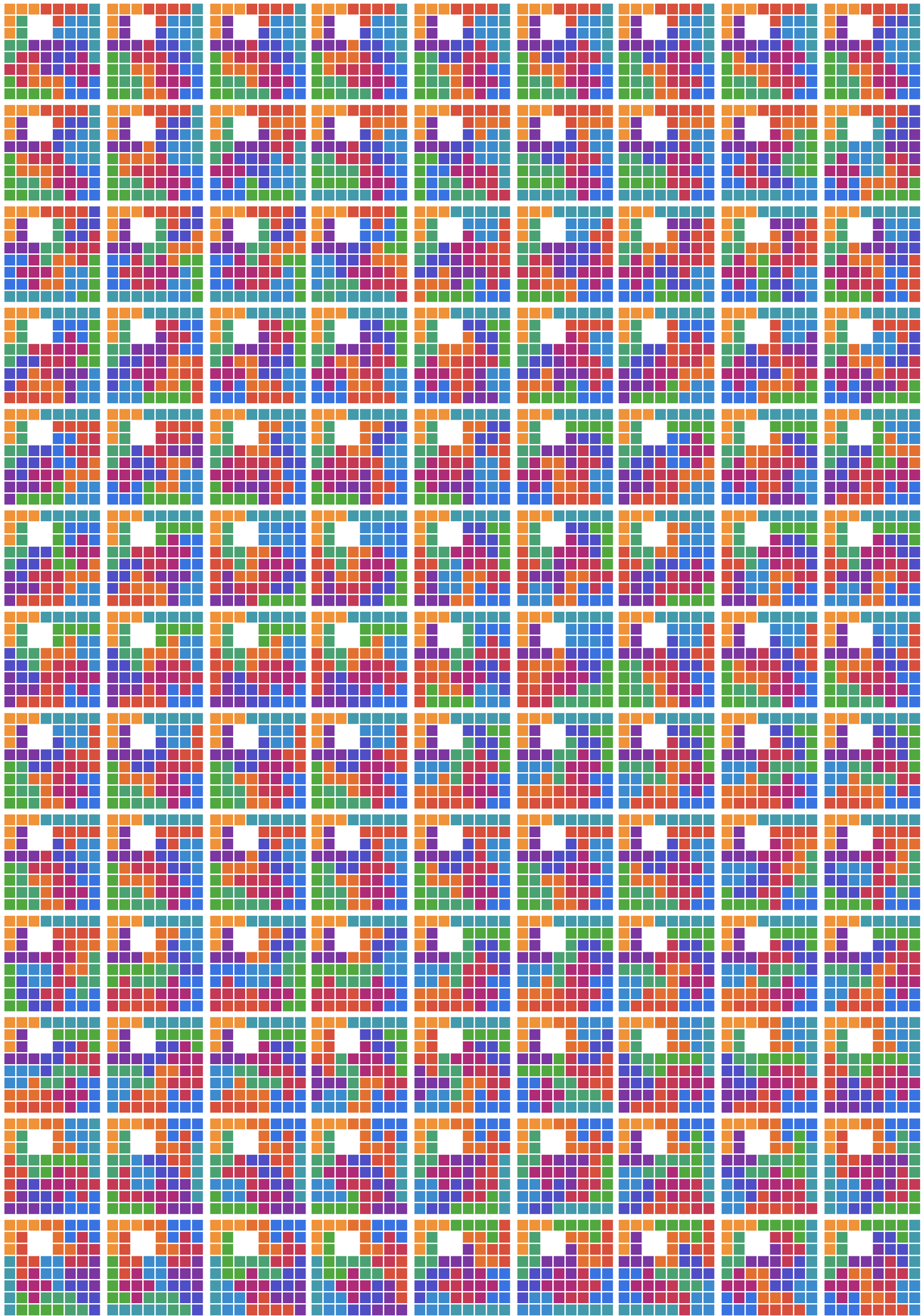


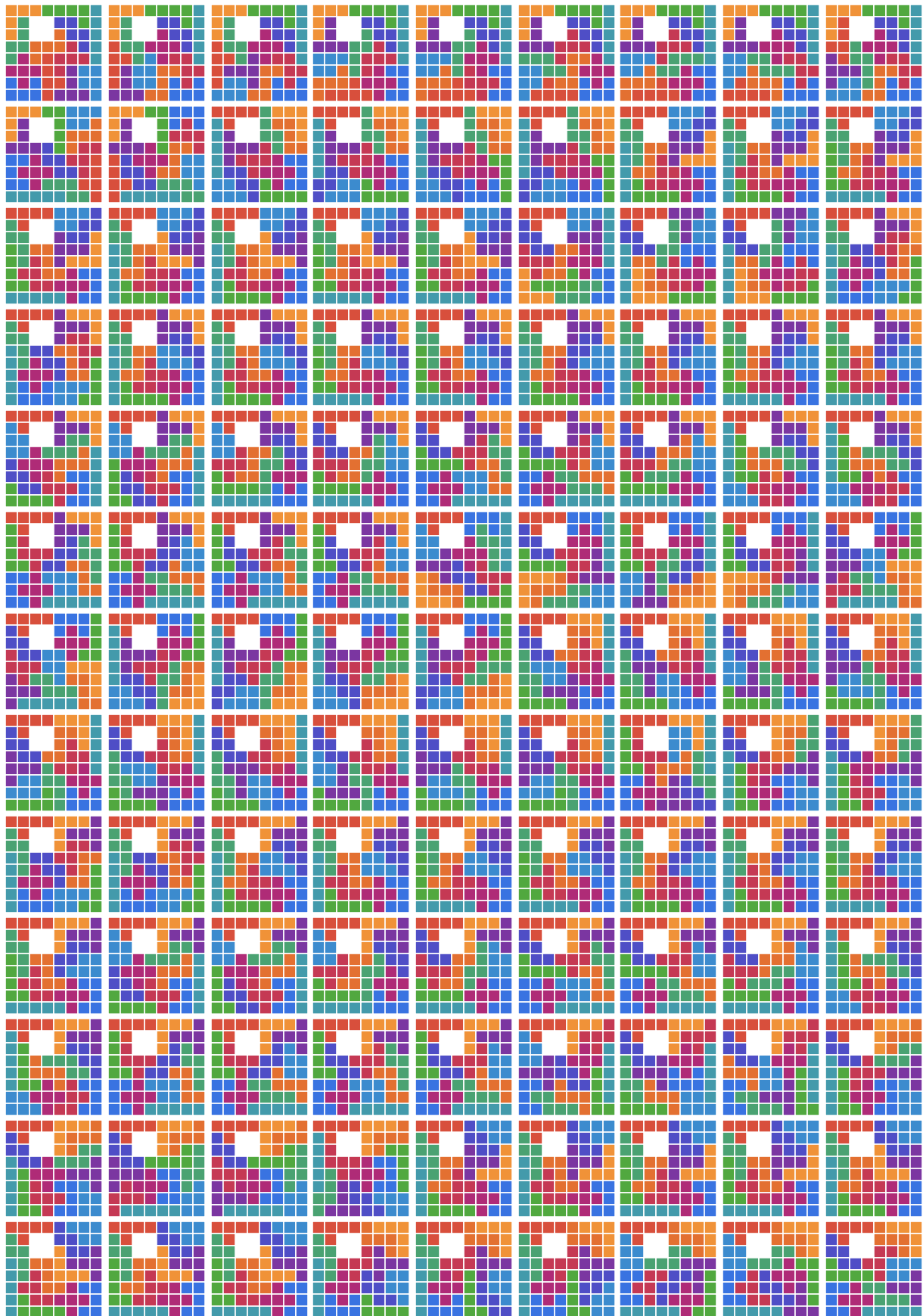


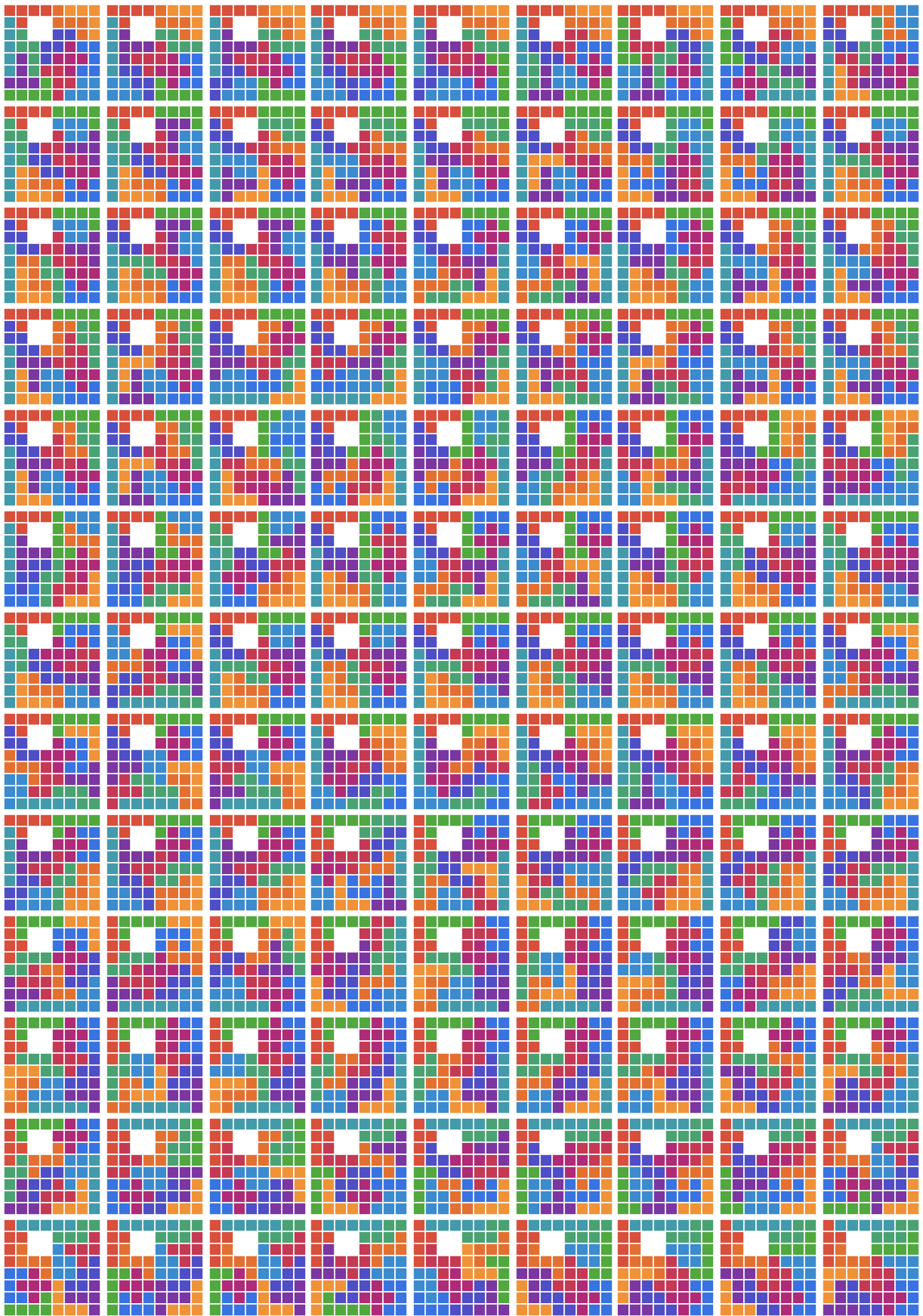


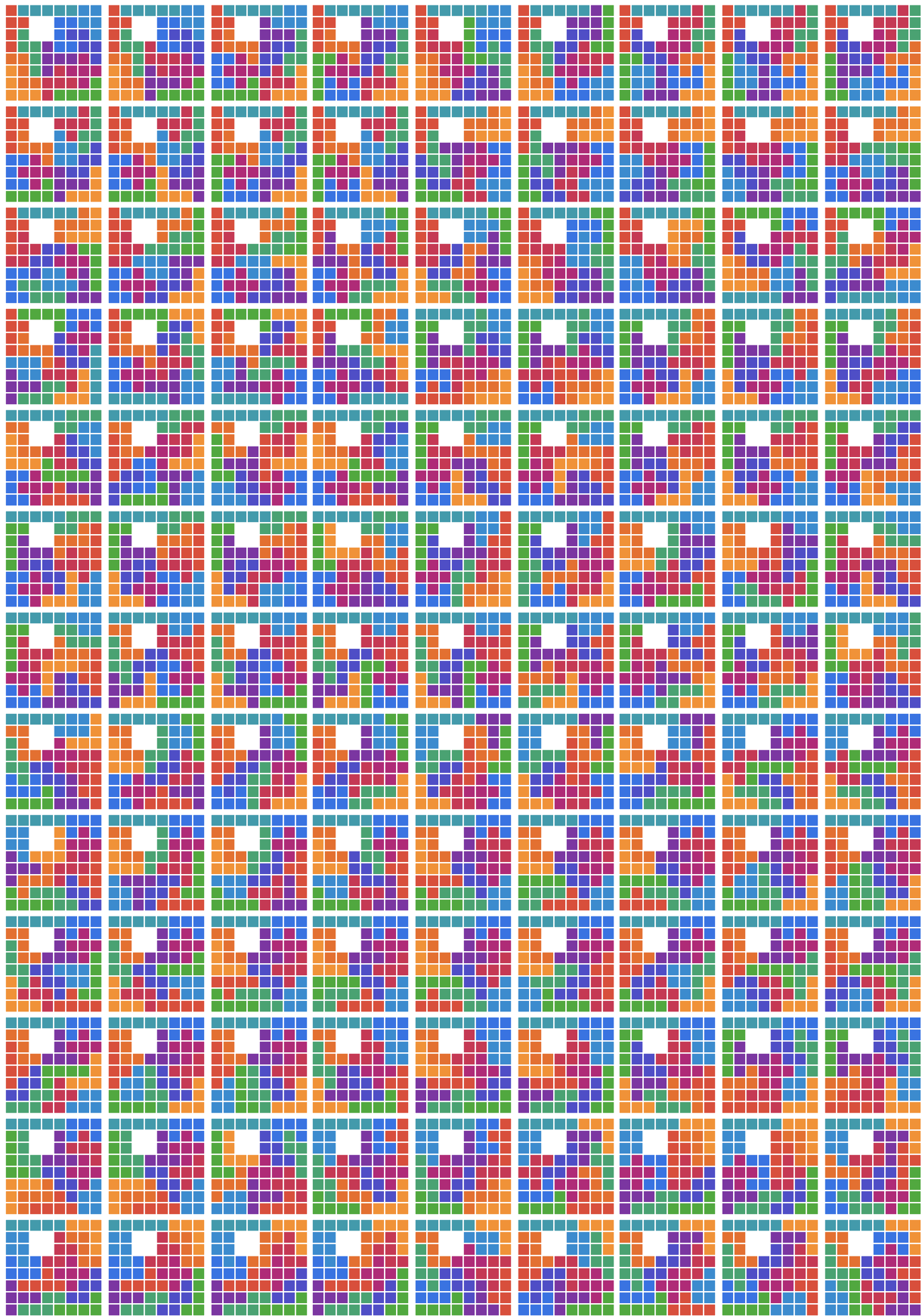


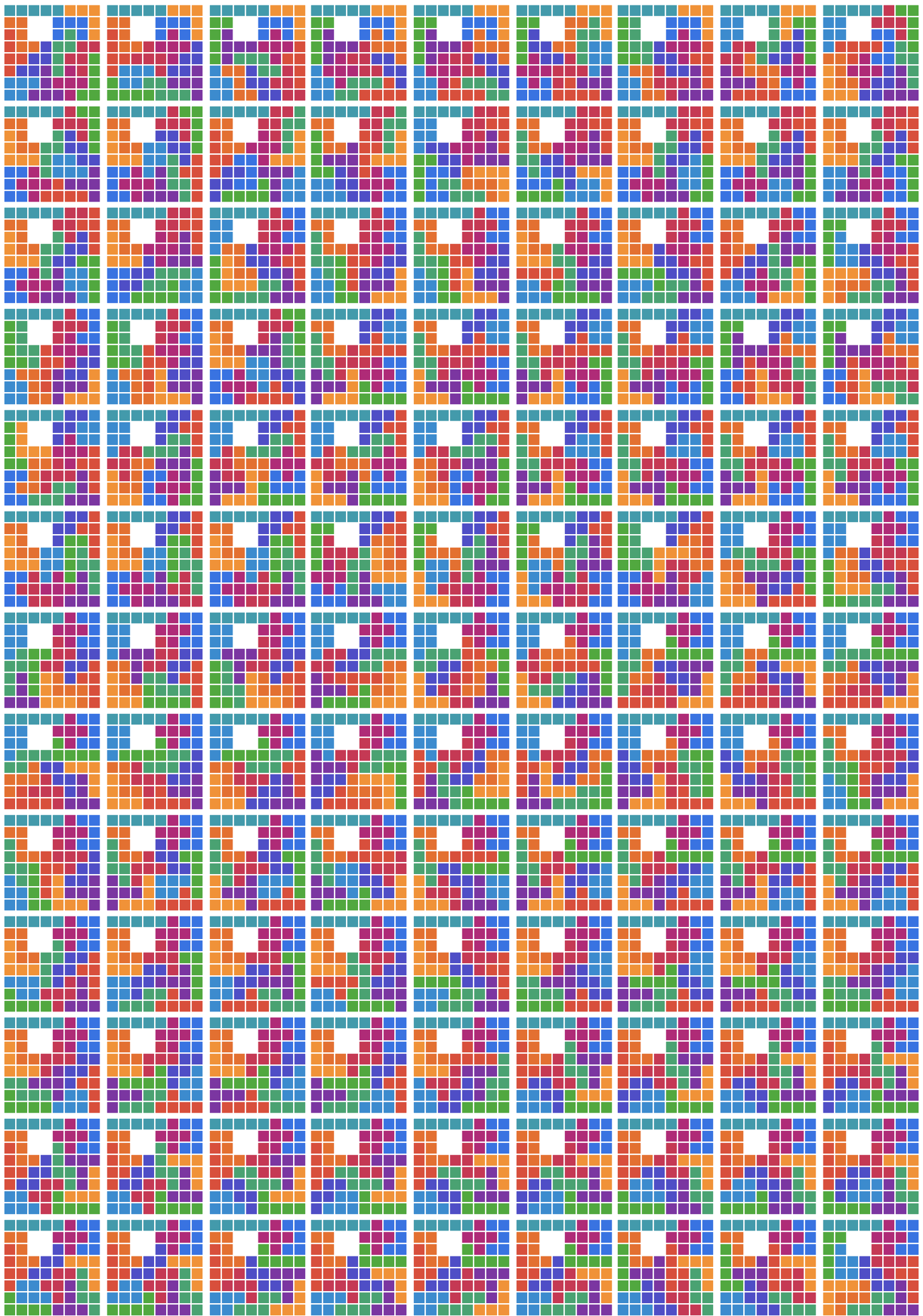


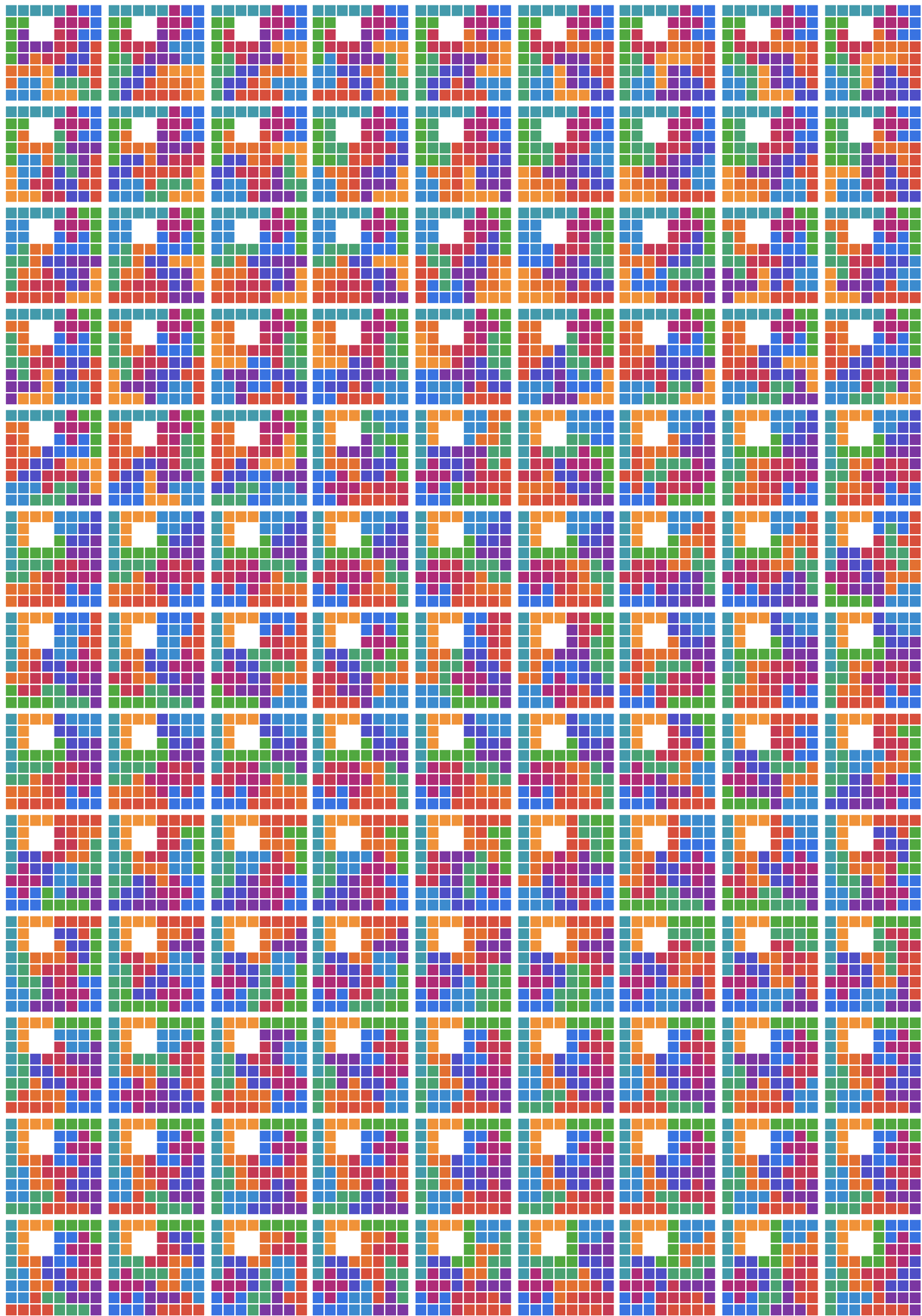


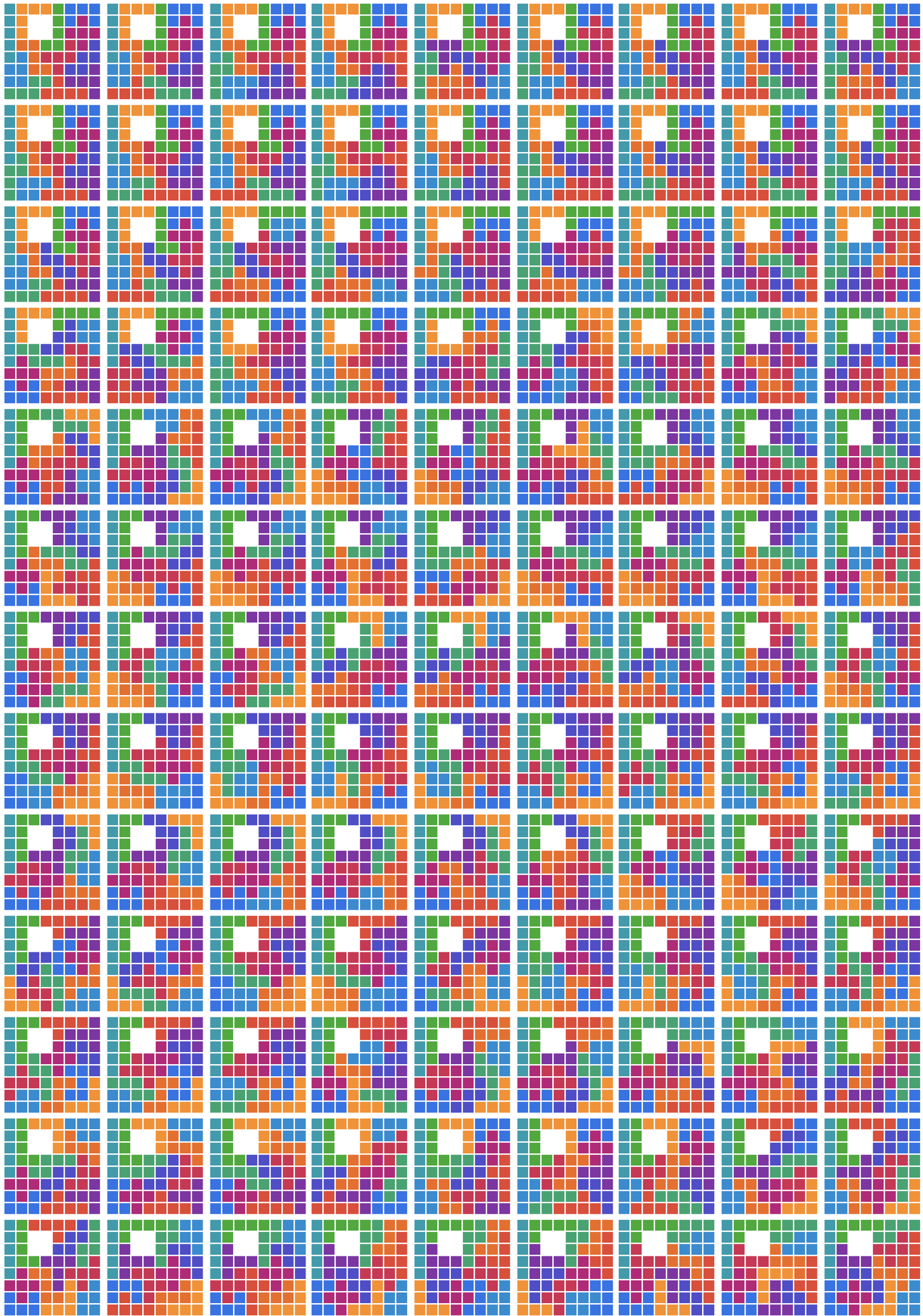


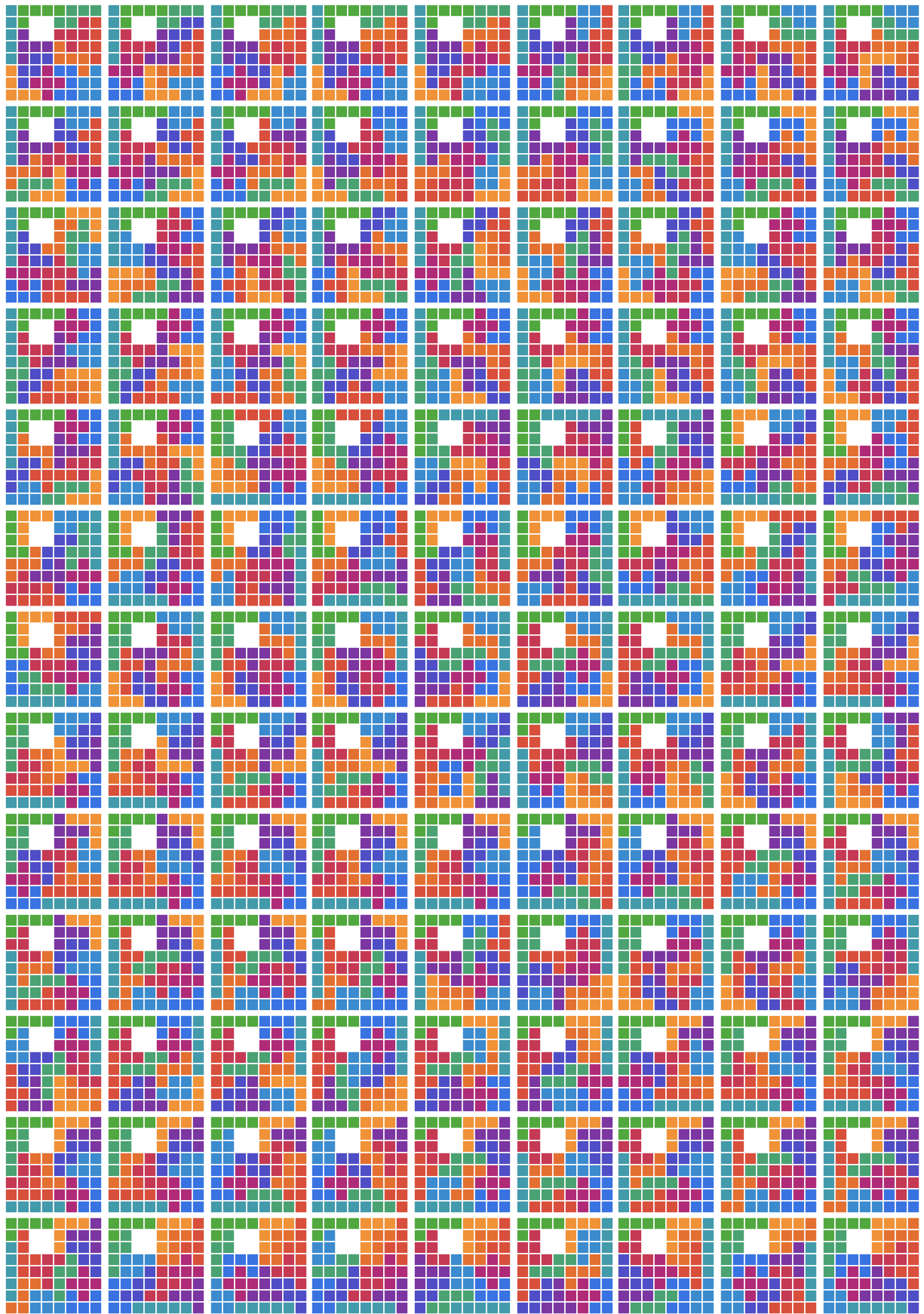


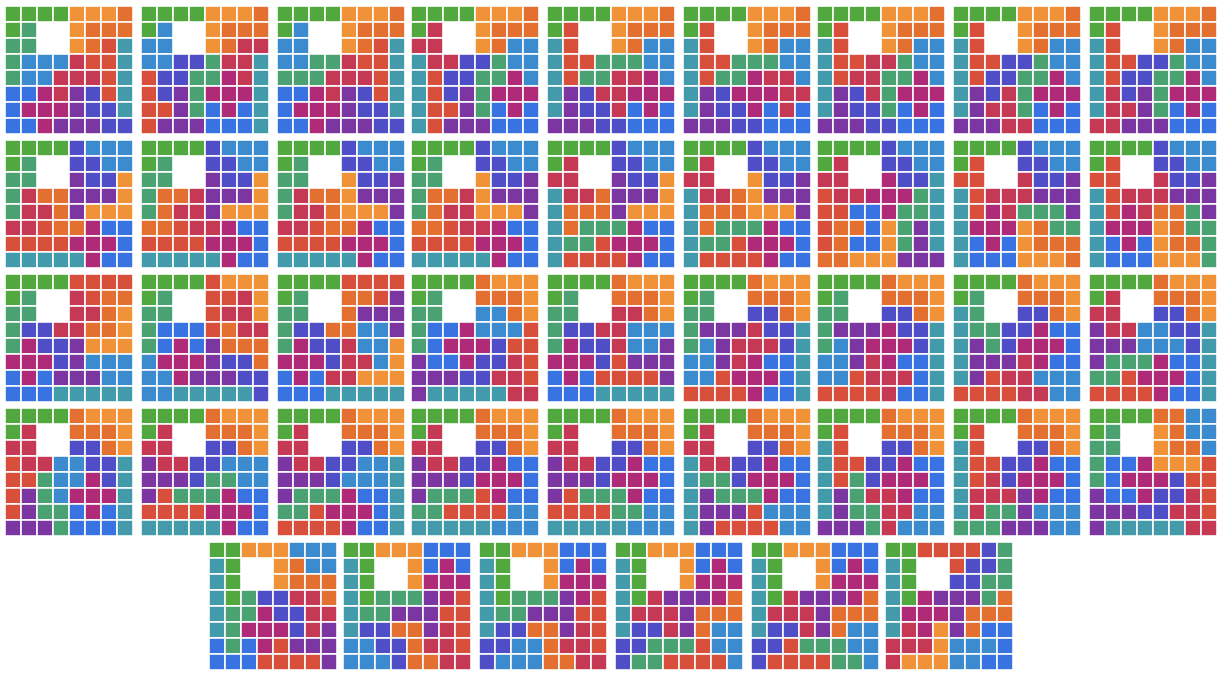


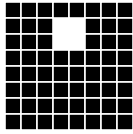






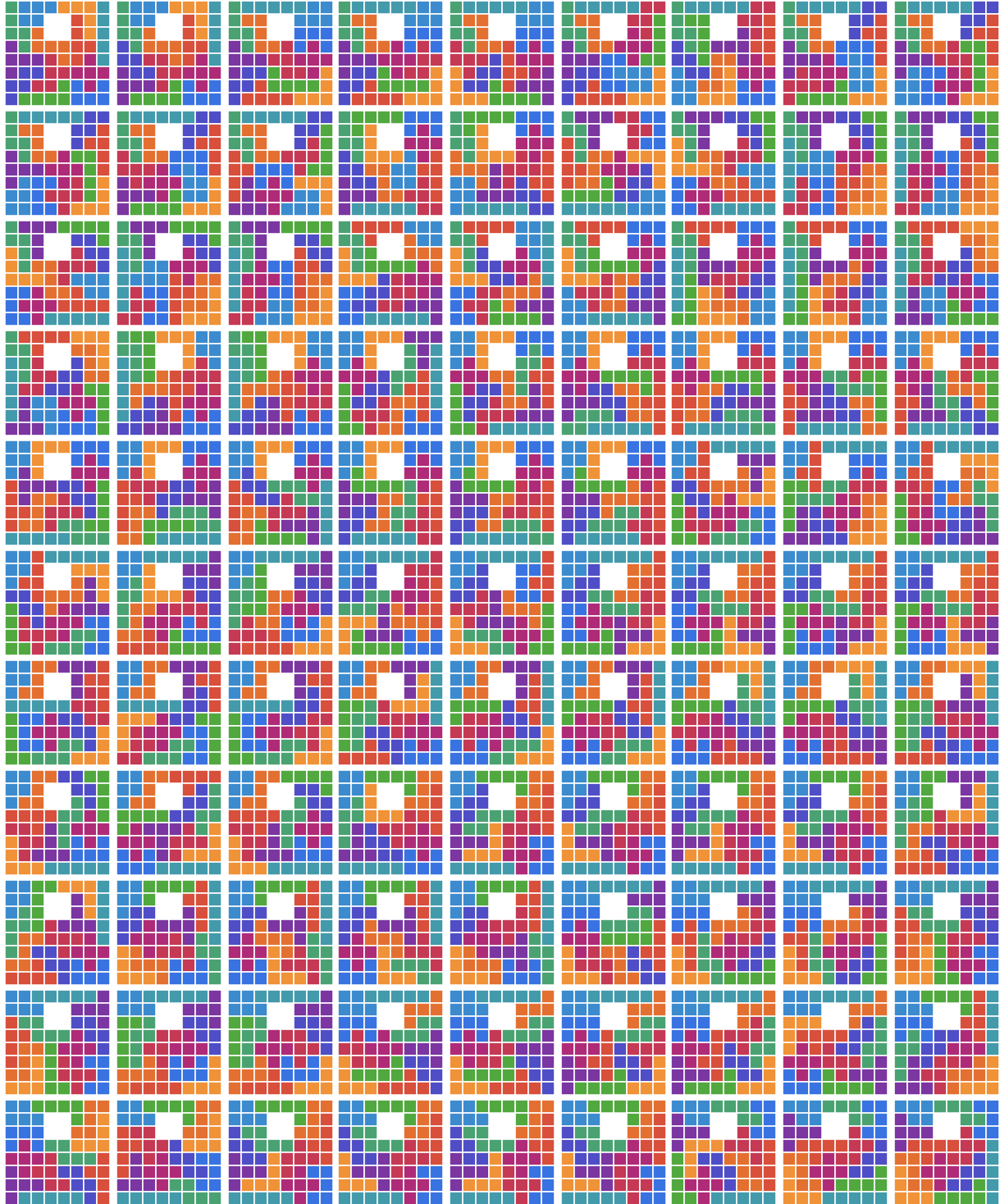


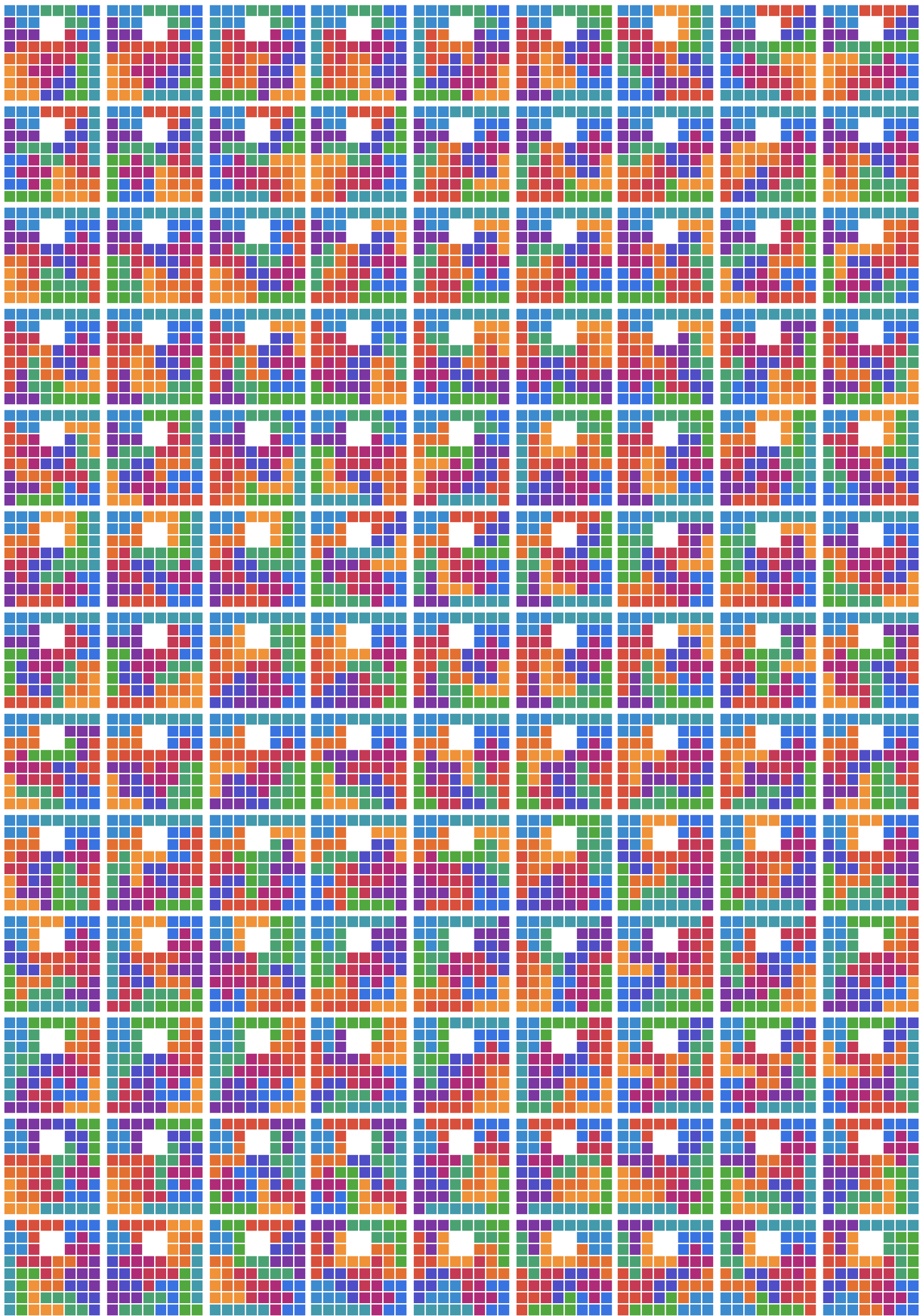


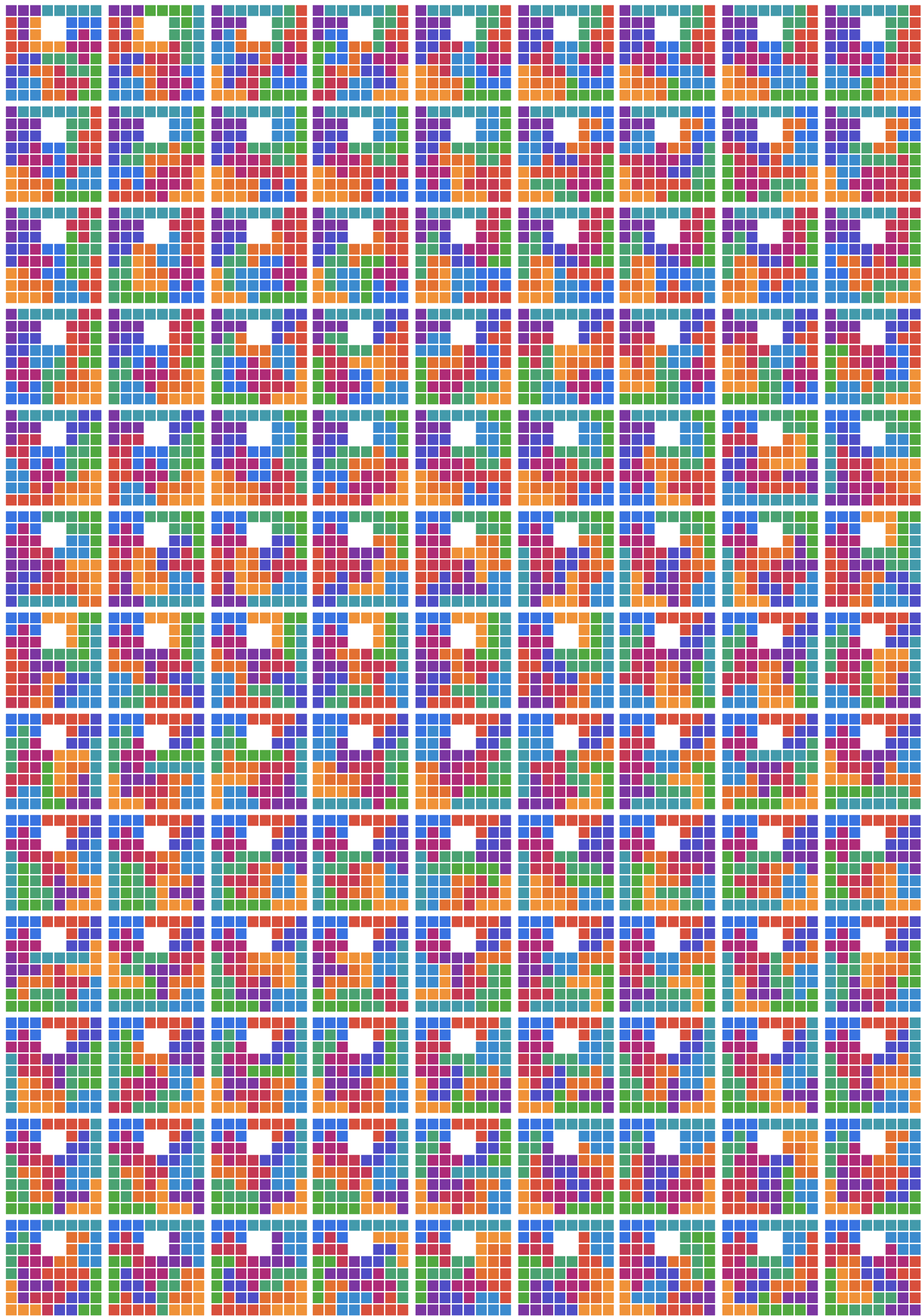


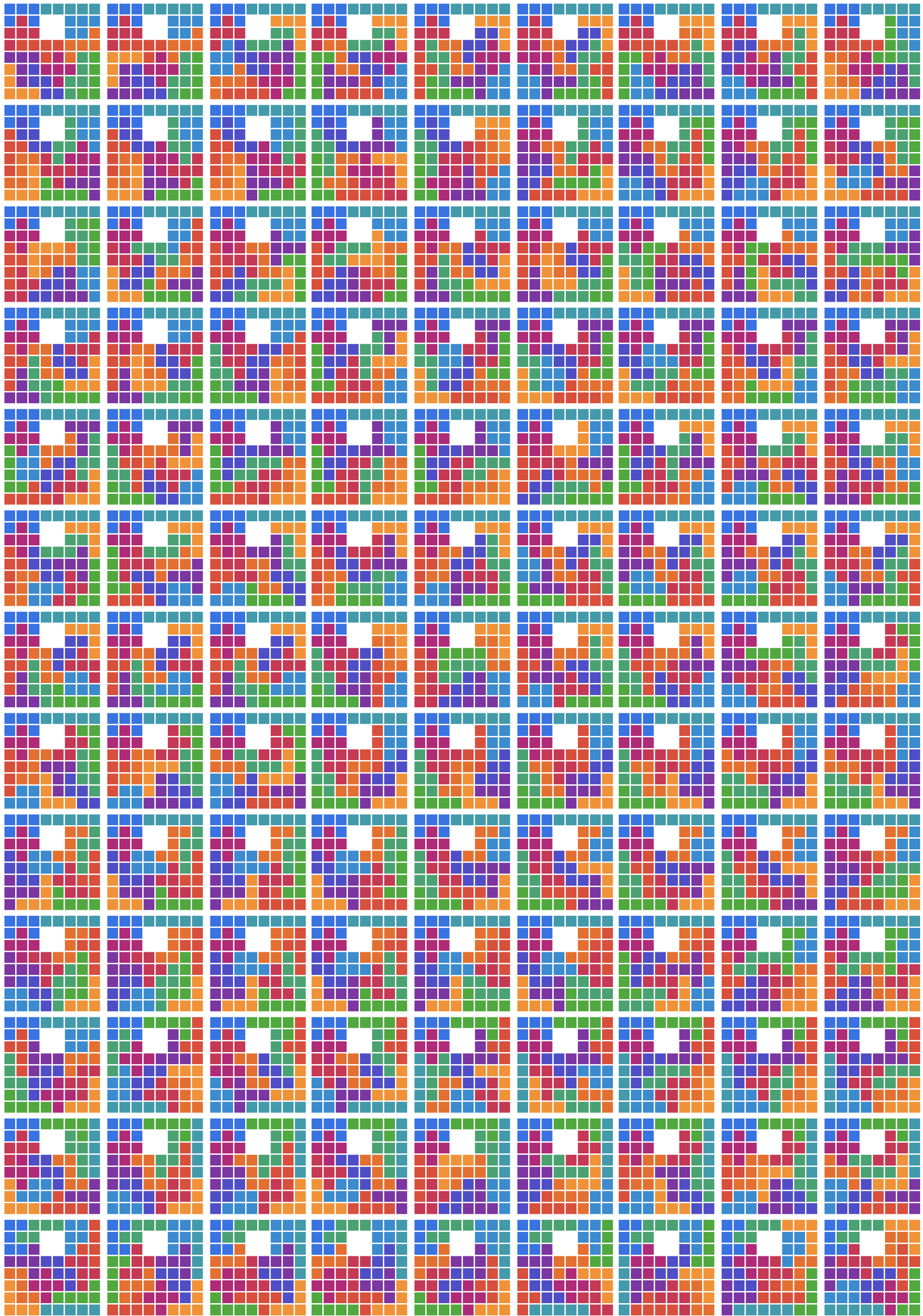
block2.3

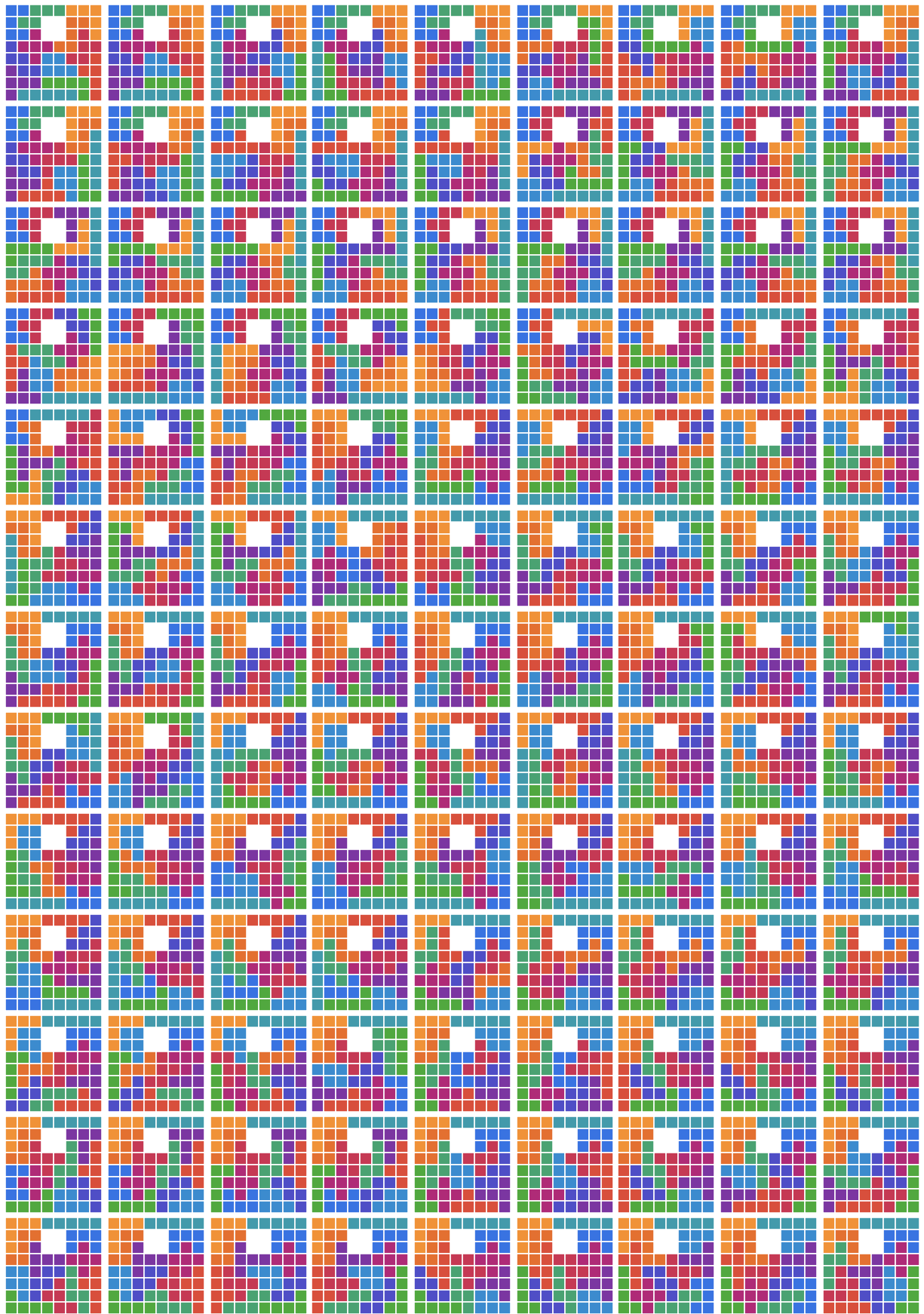
721 Solutions

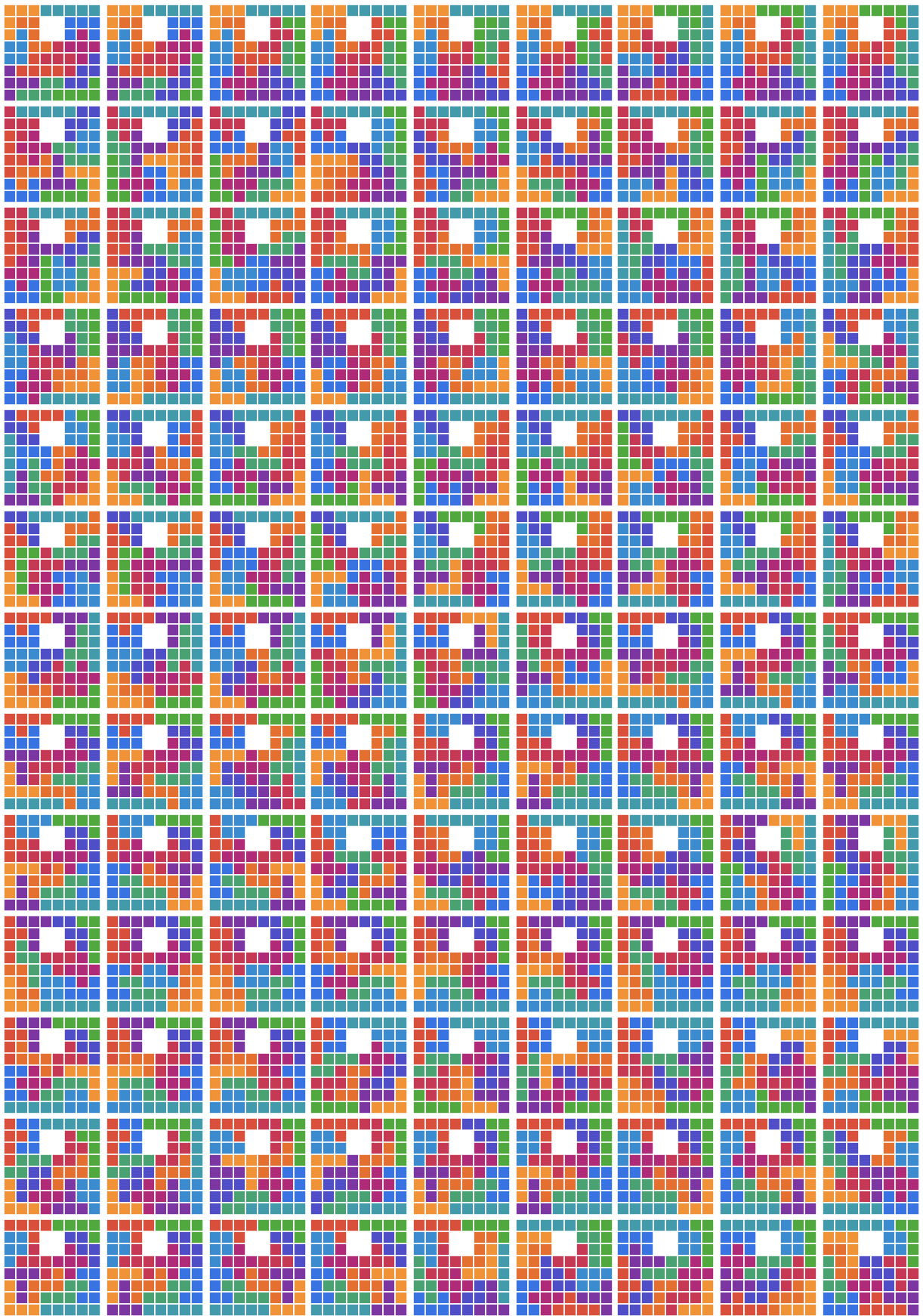


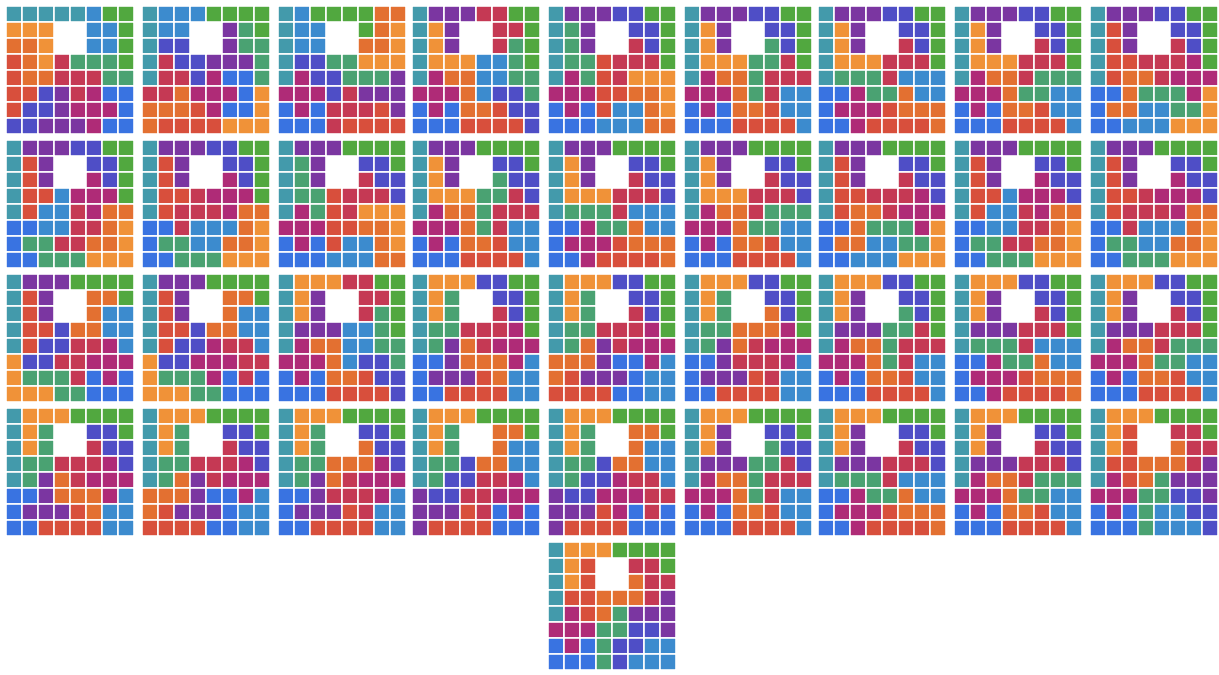






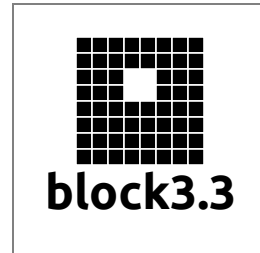
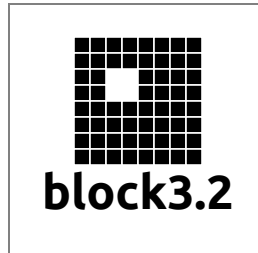
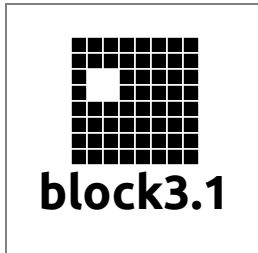


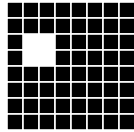




Four Square 4

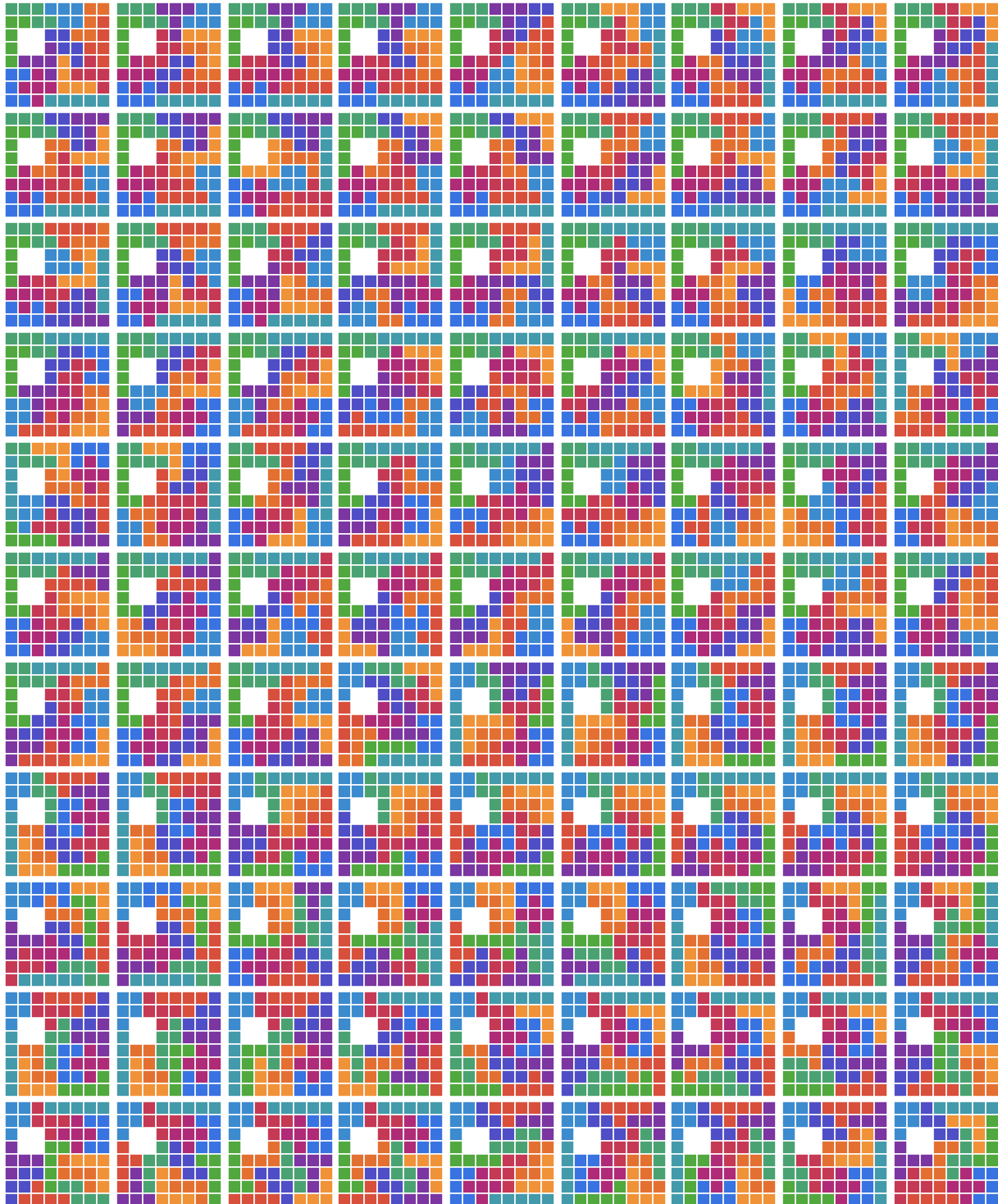
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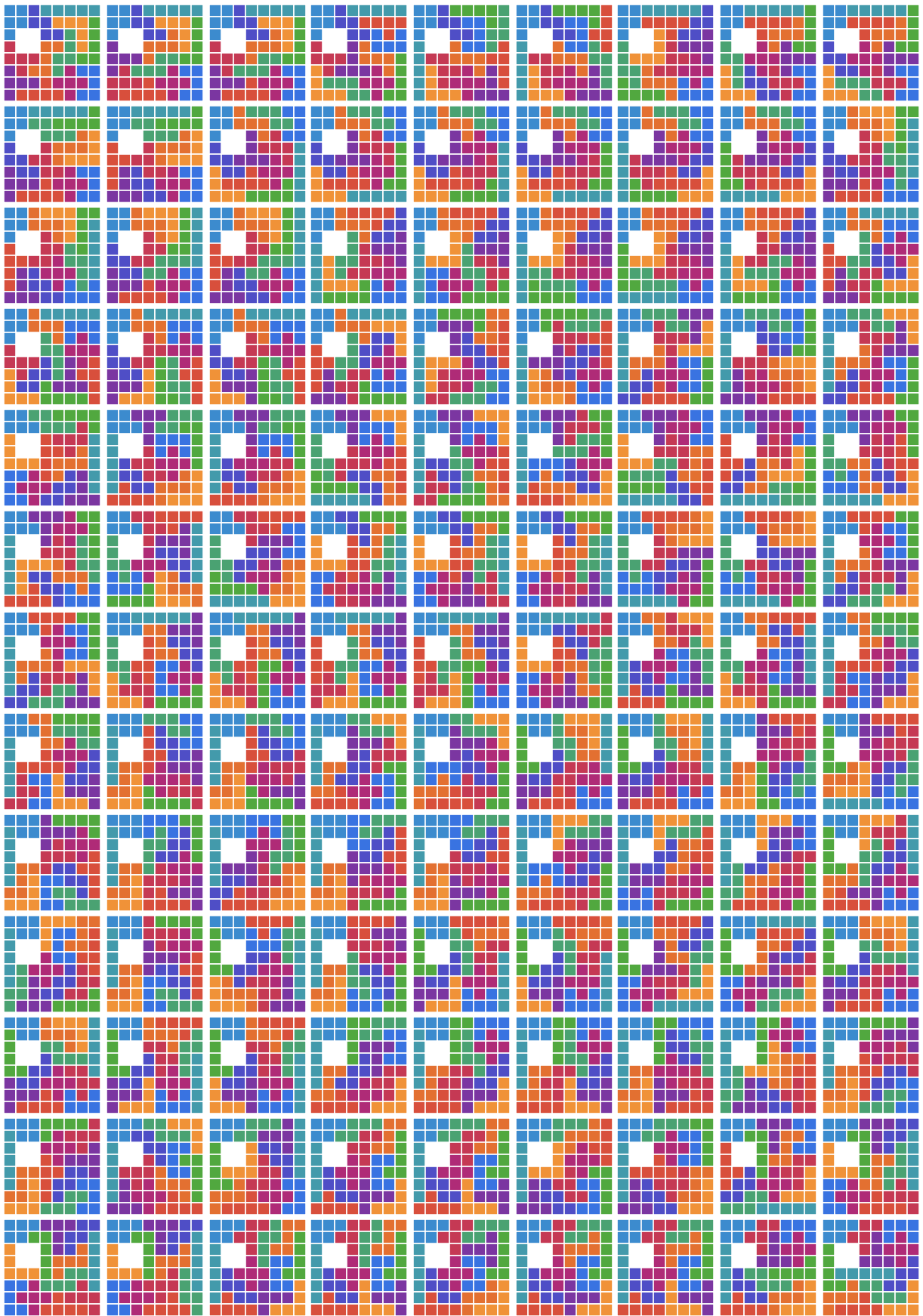


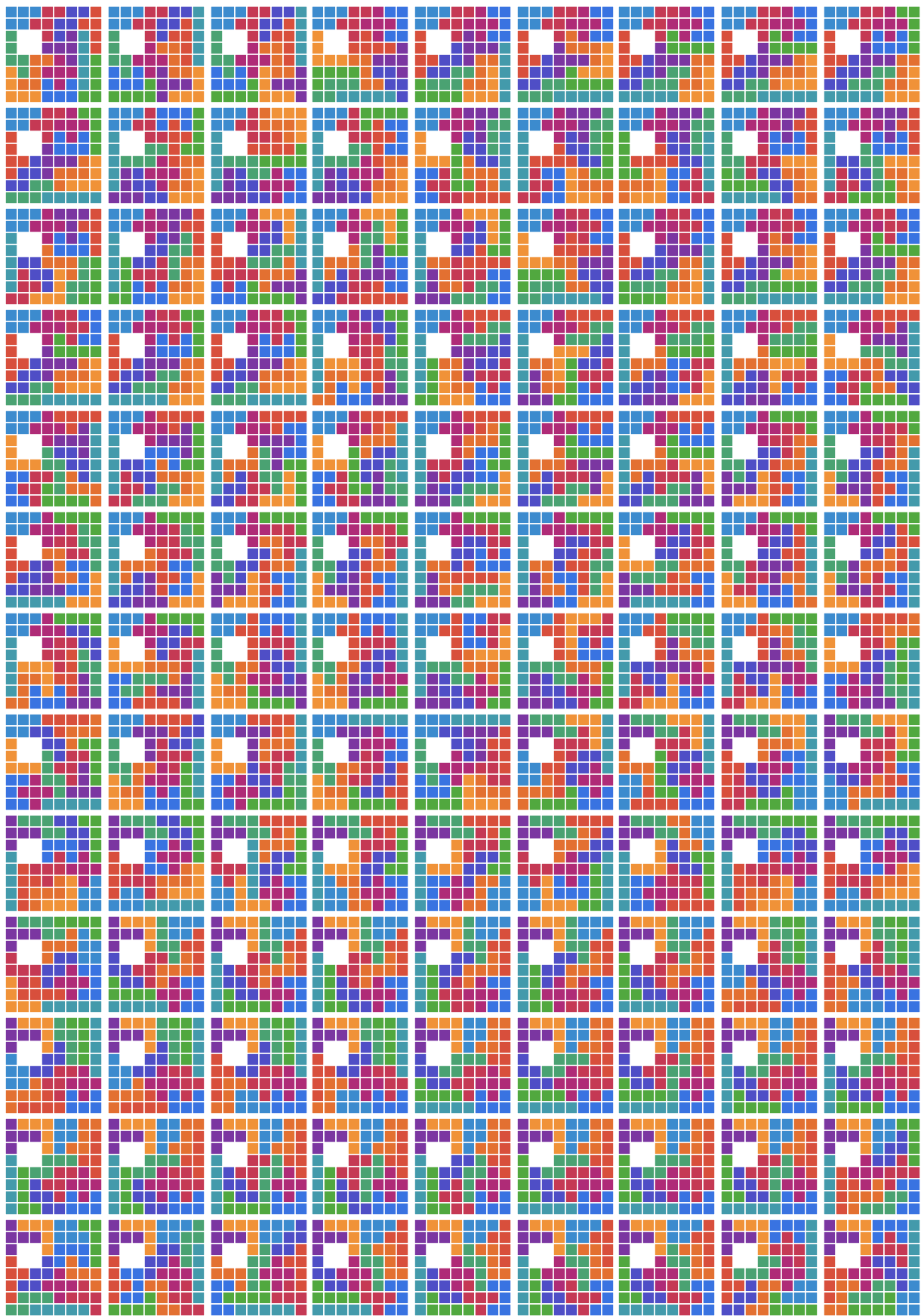


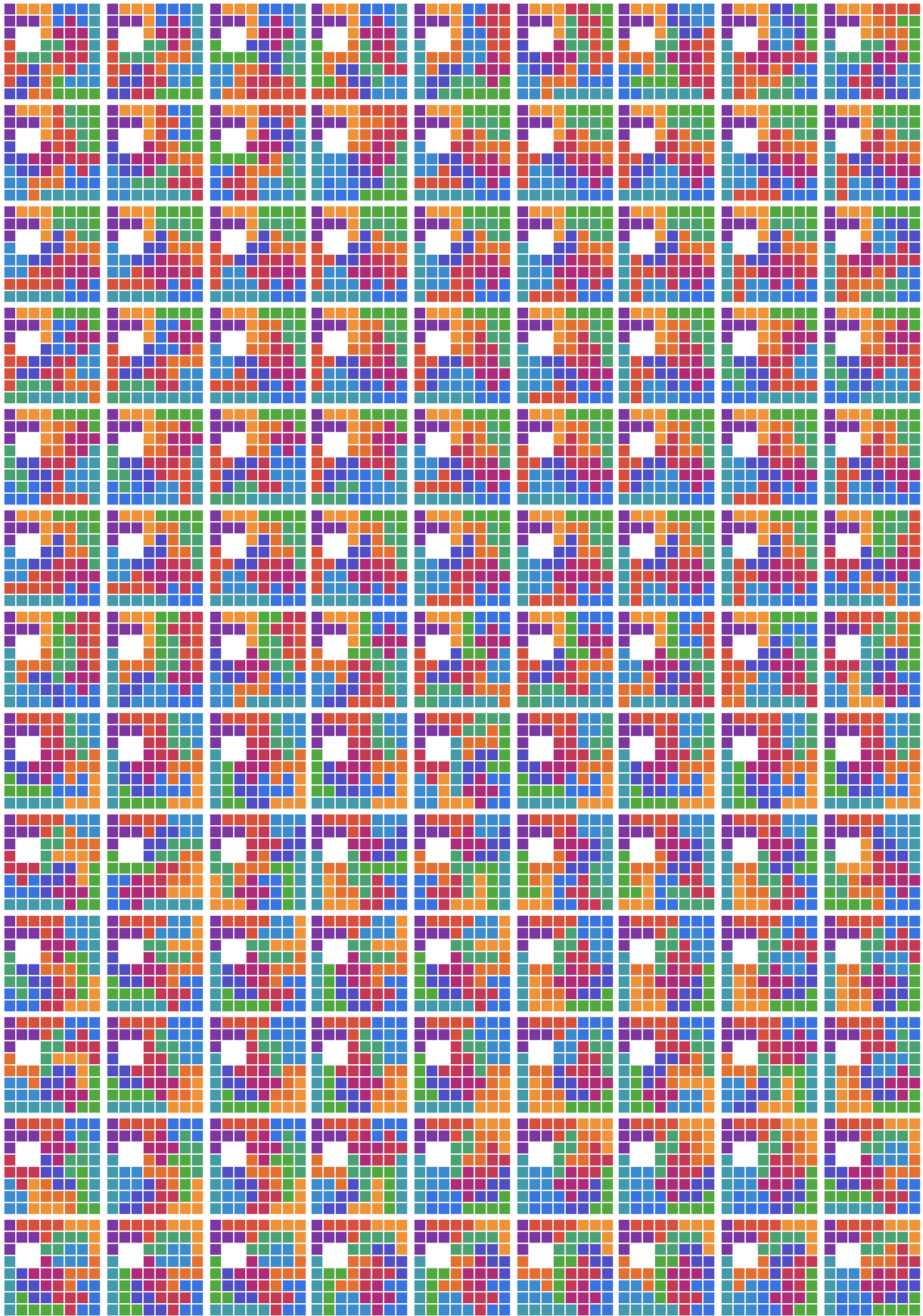
block3.1

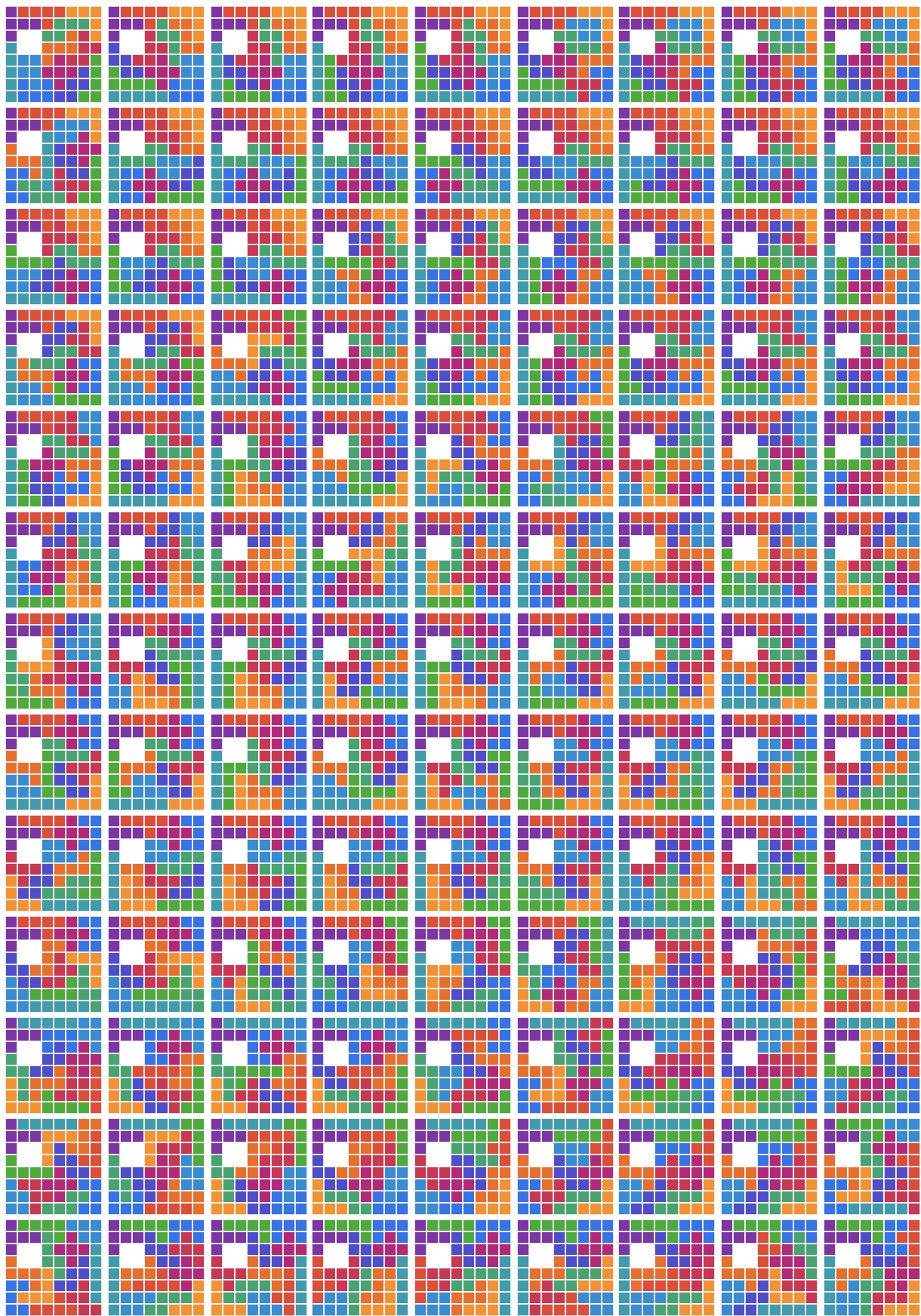
1,662 Solutions

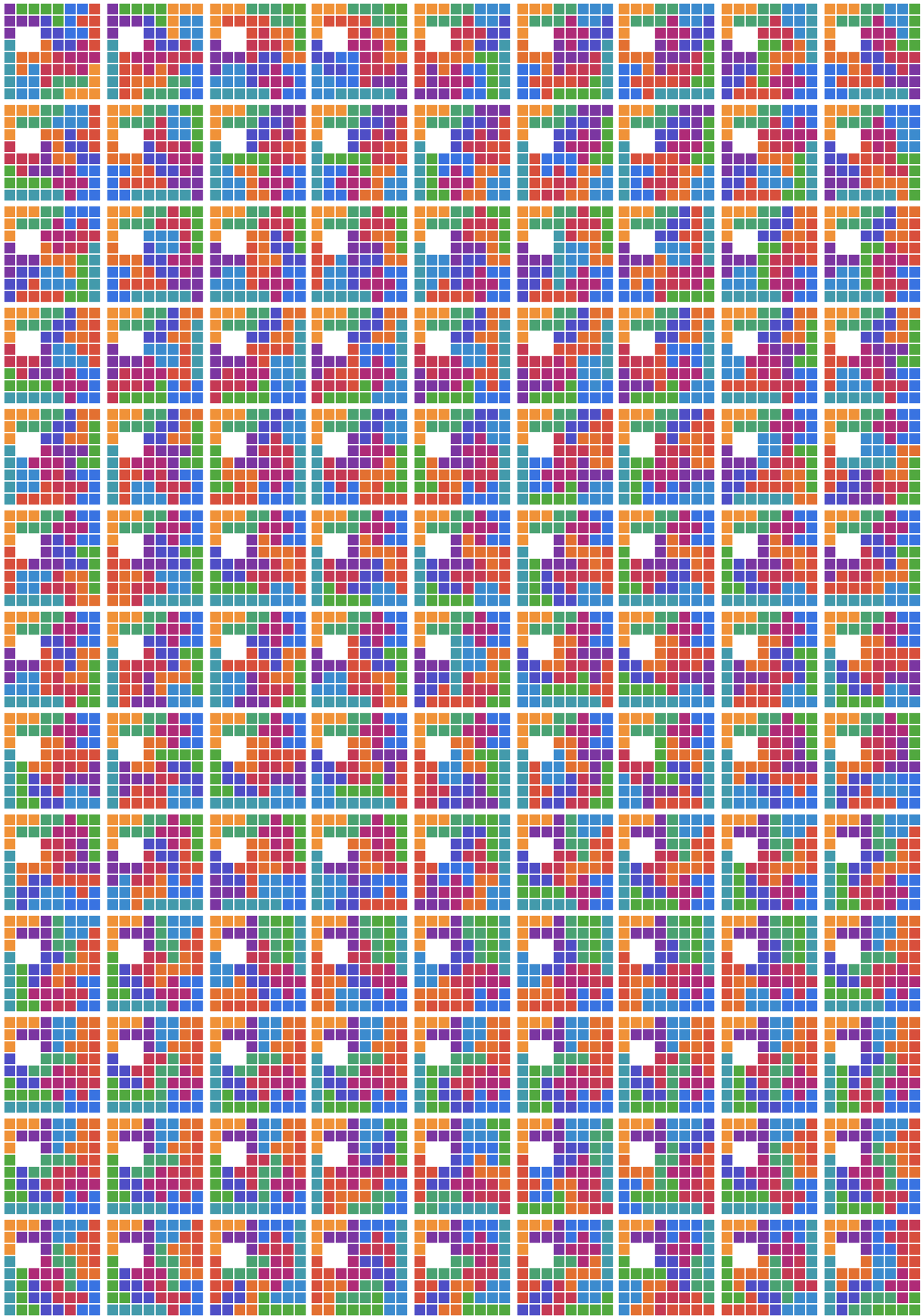


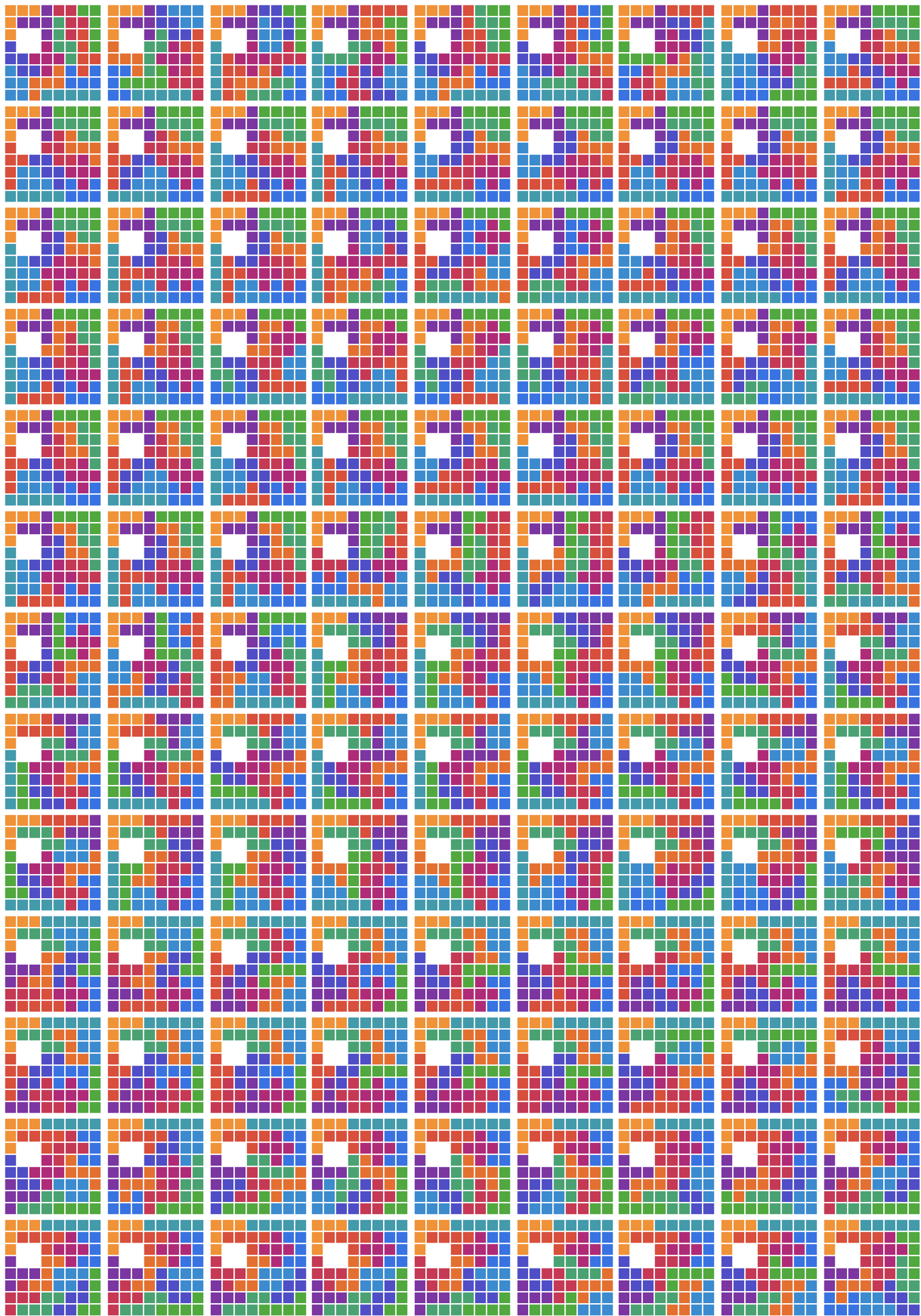


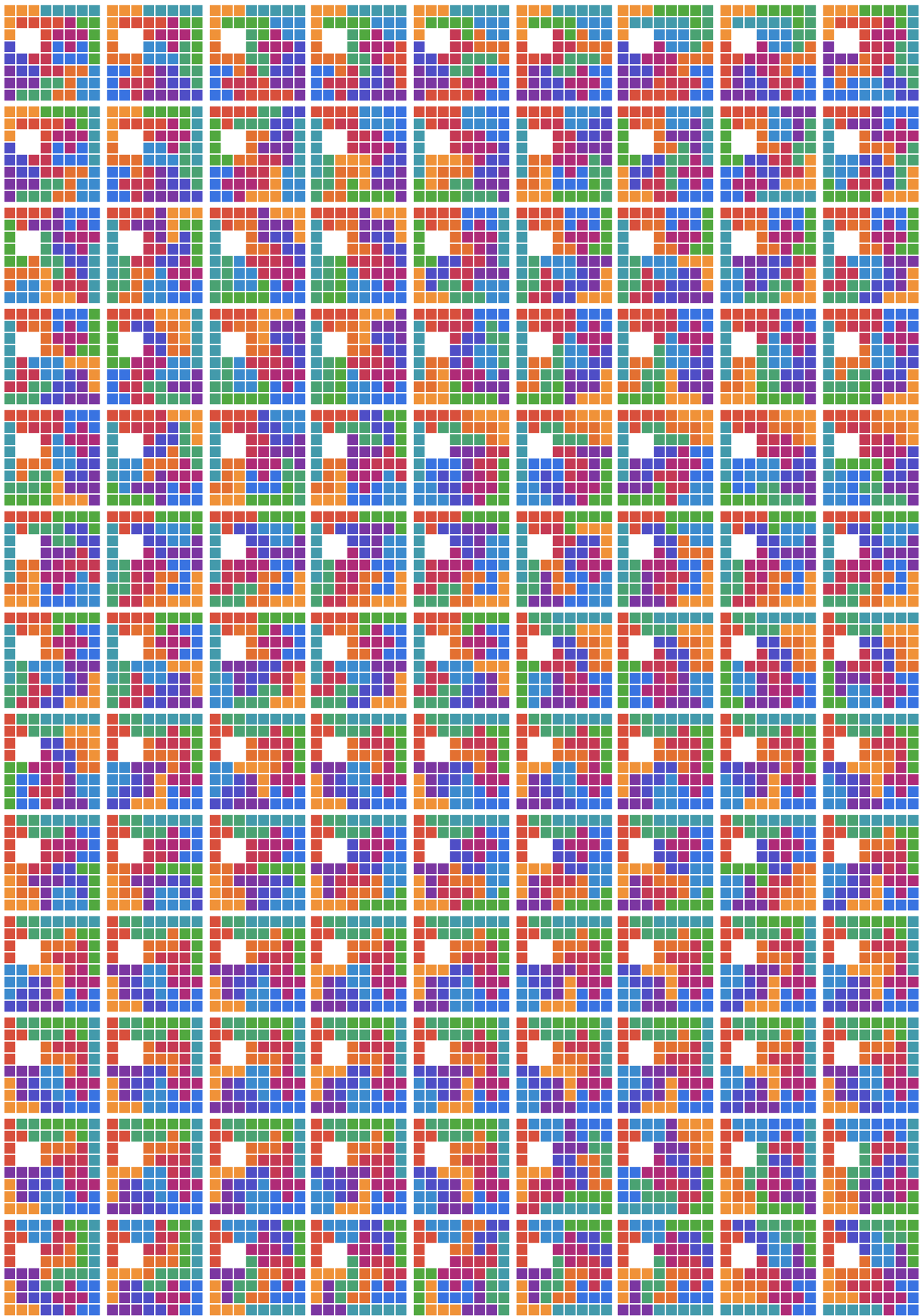


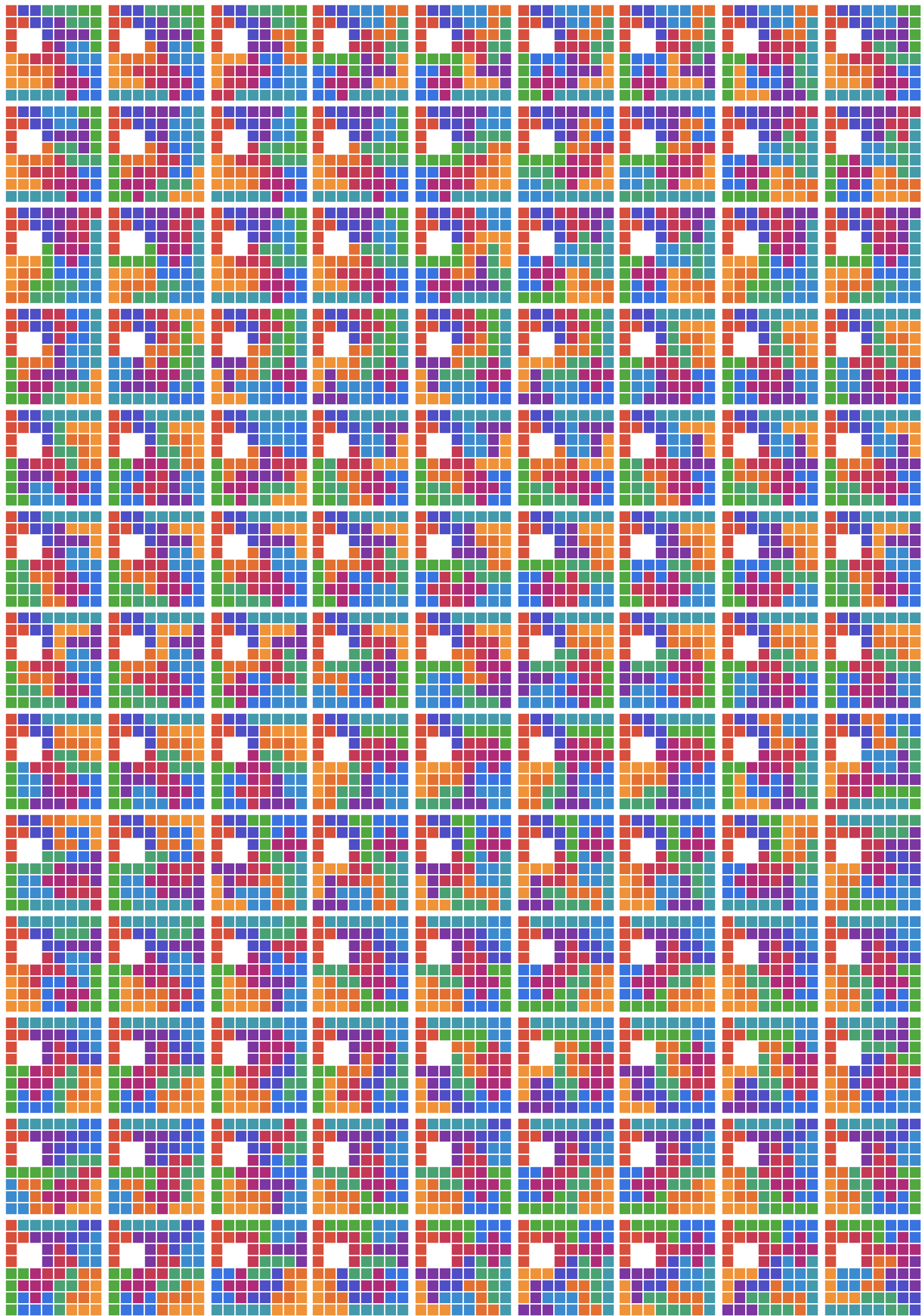


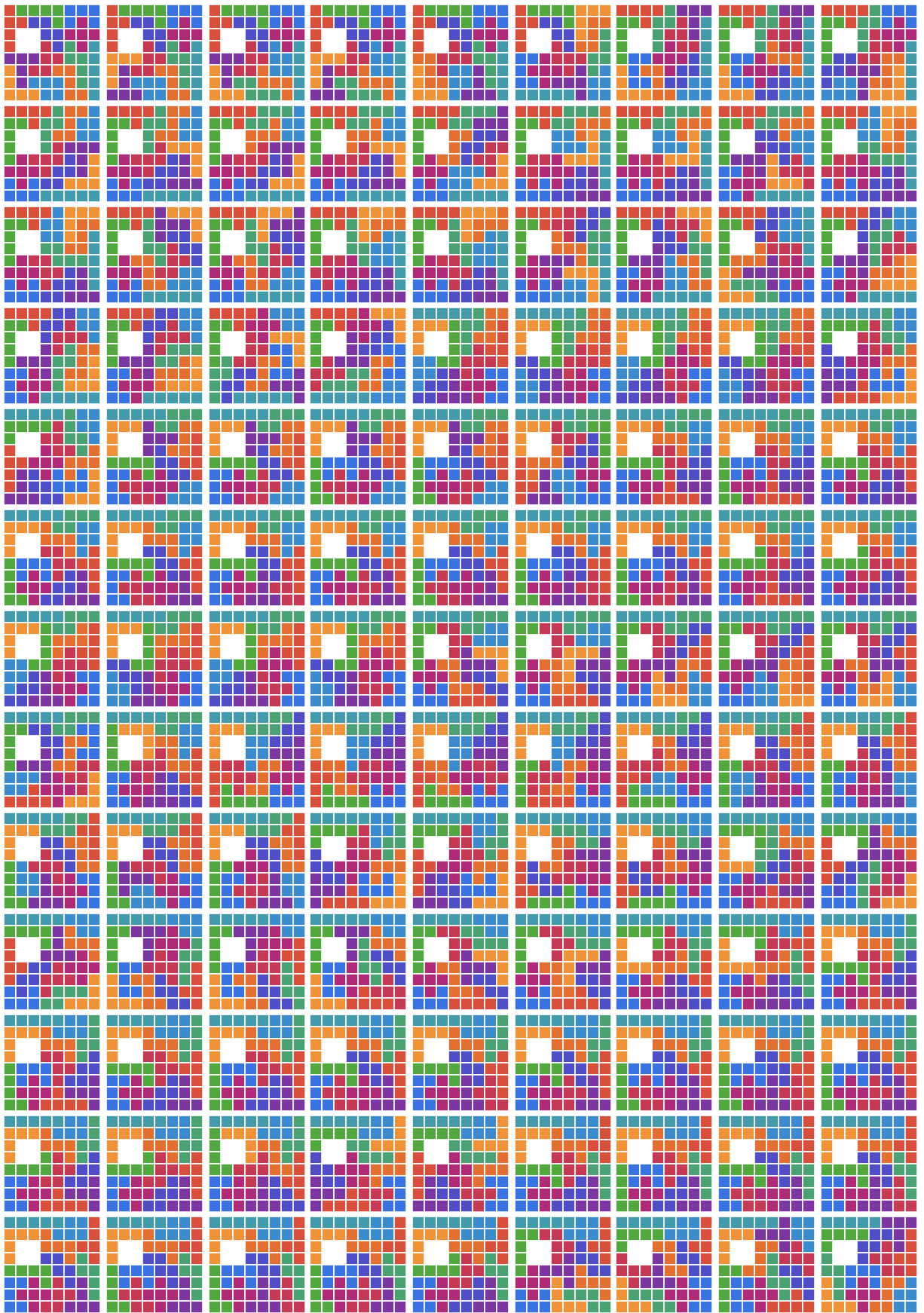


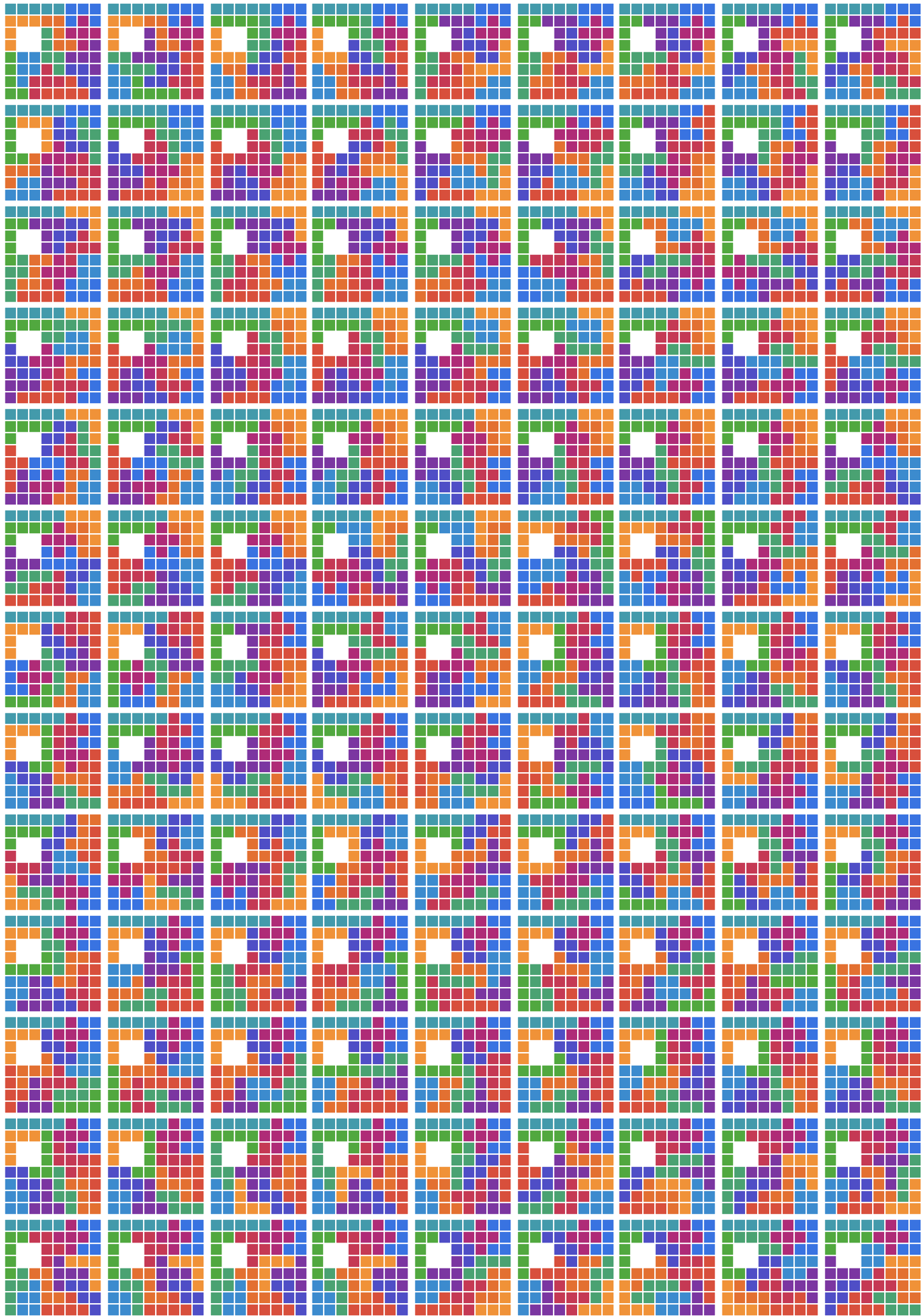


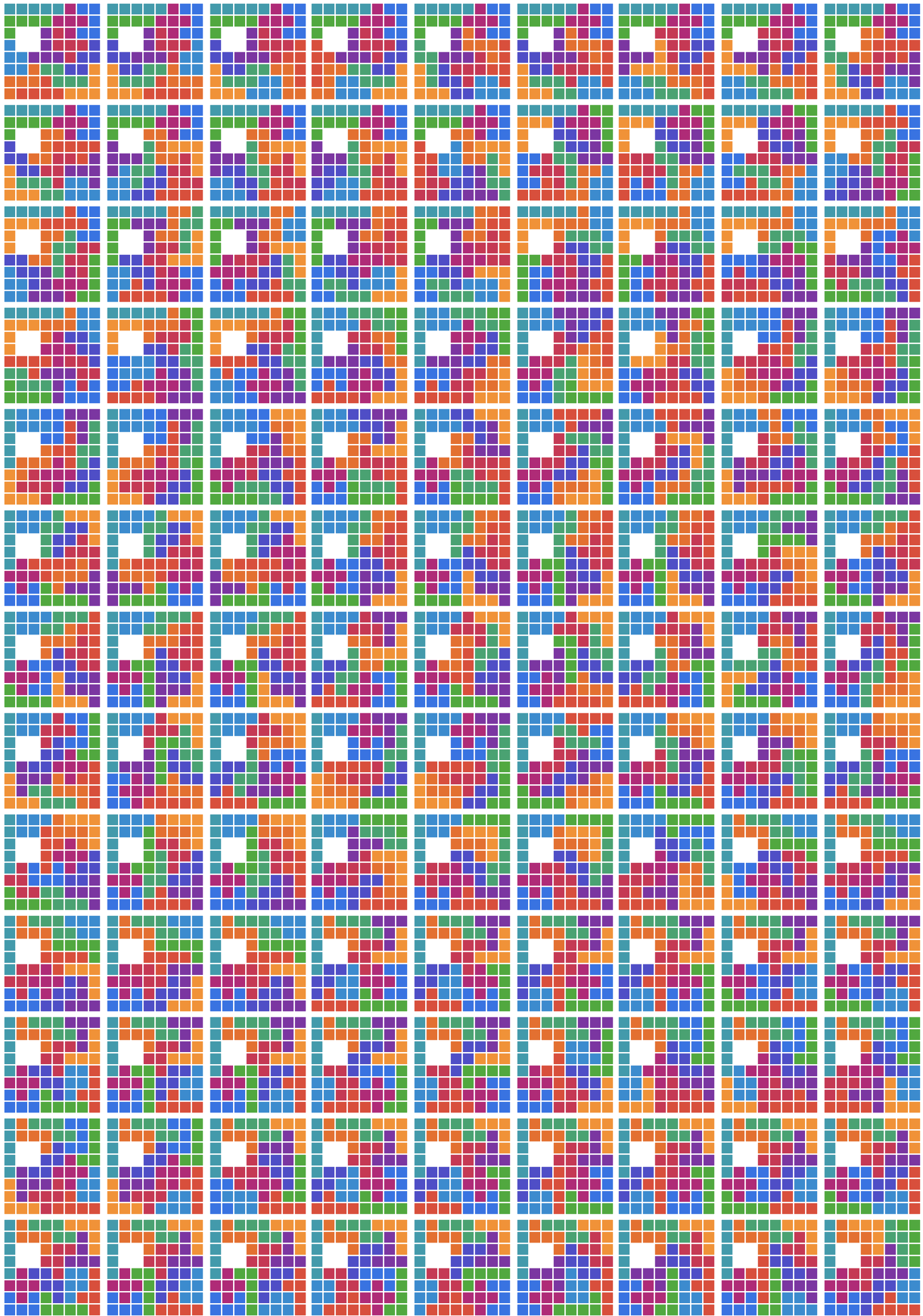


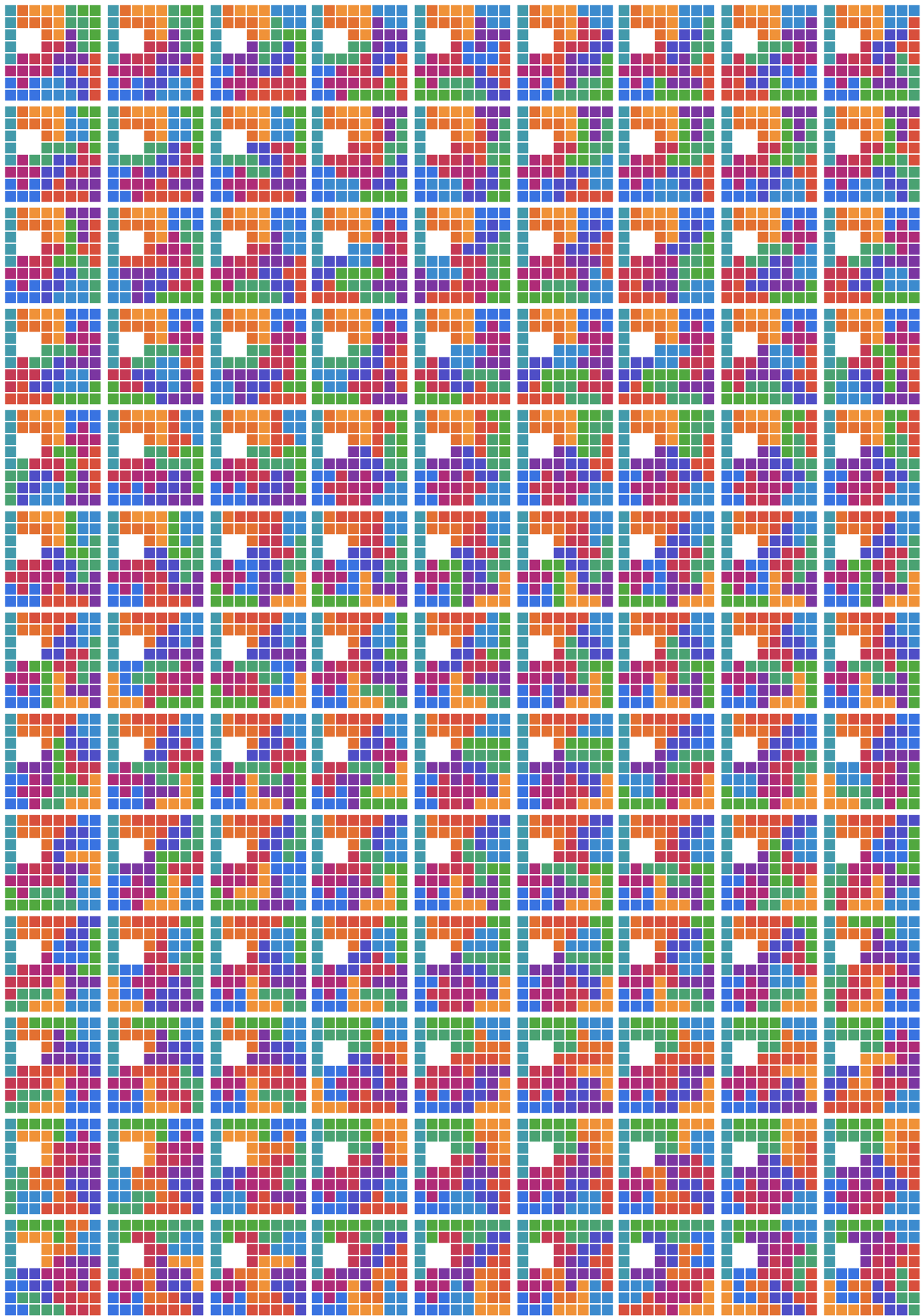


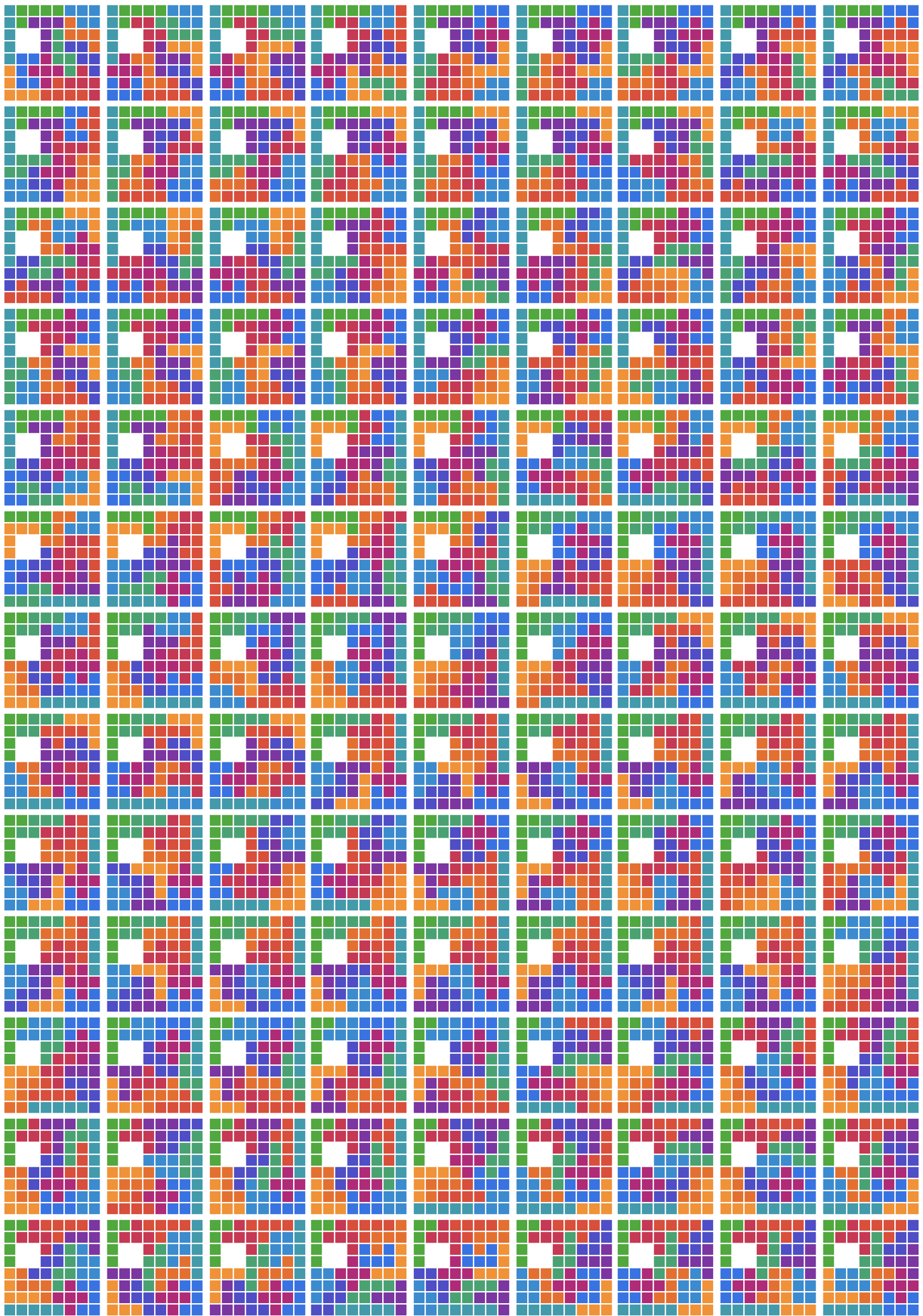


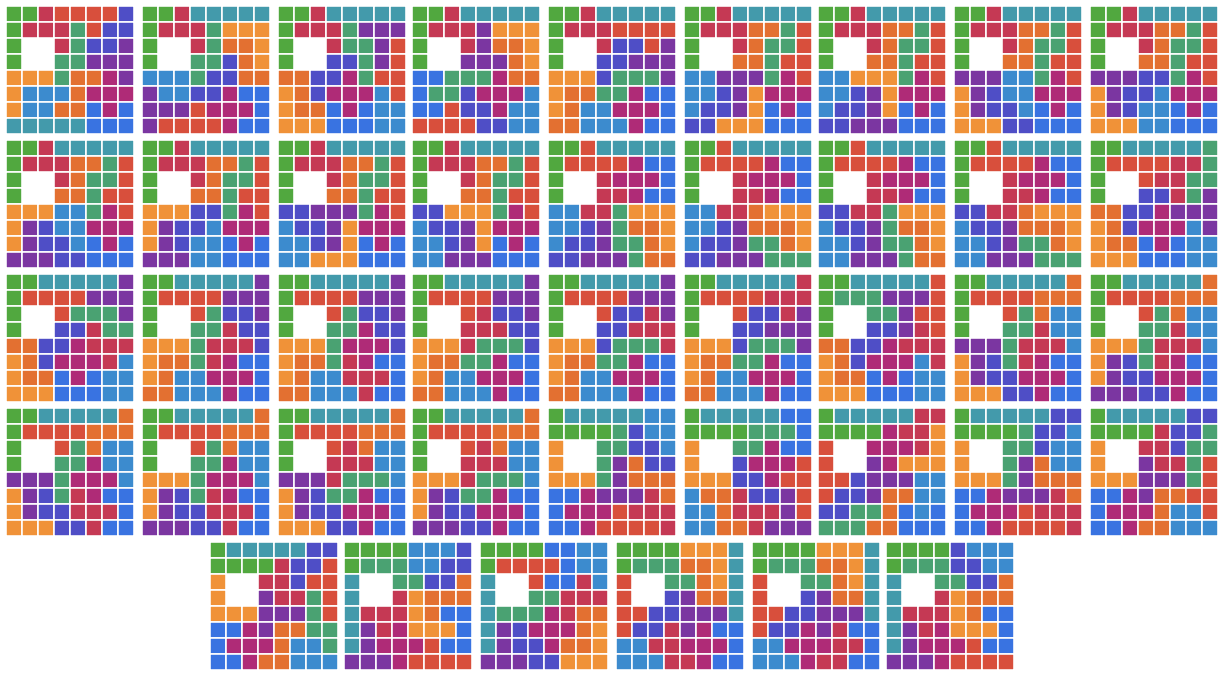


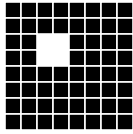






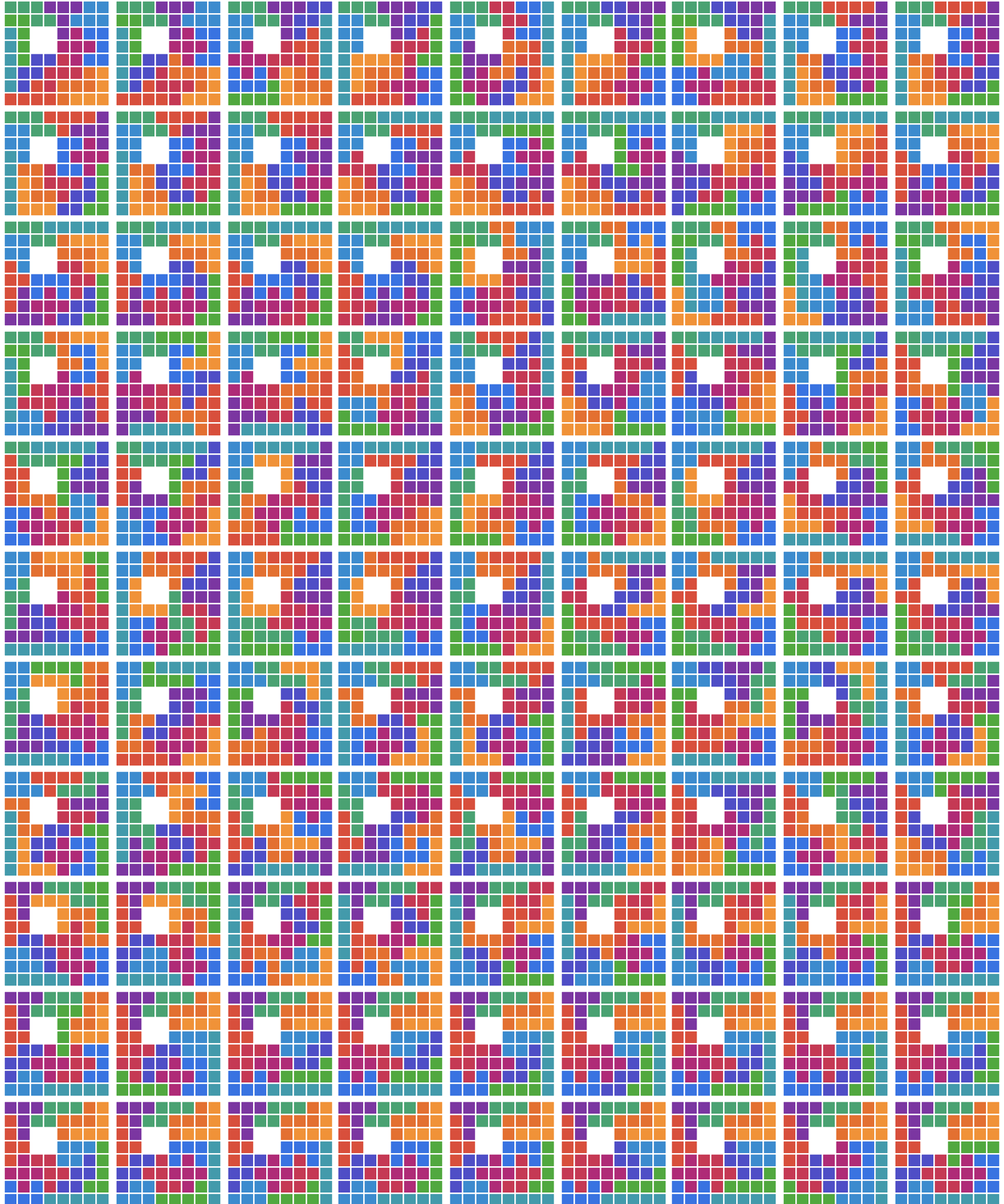


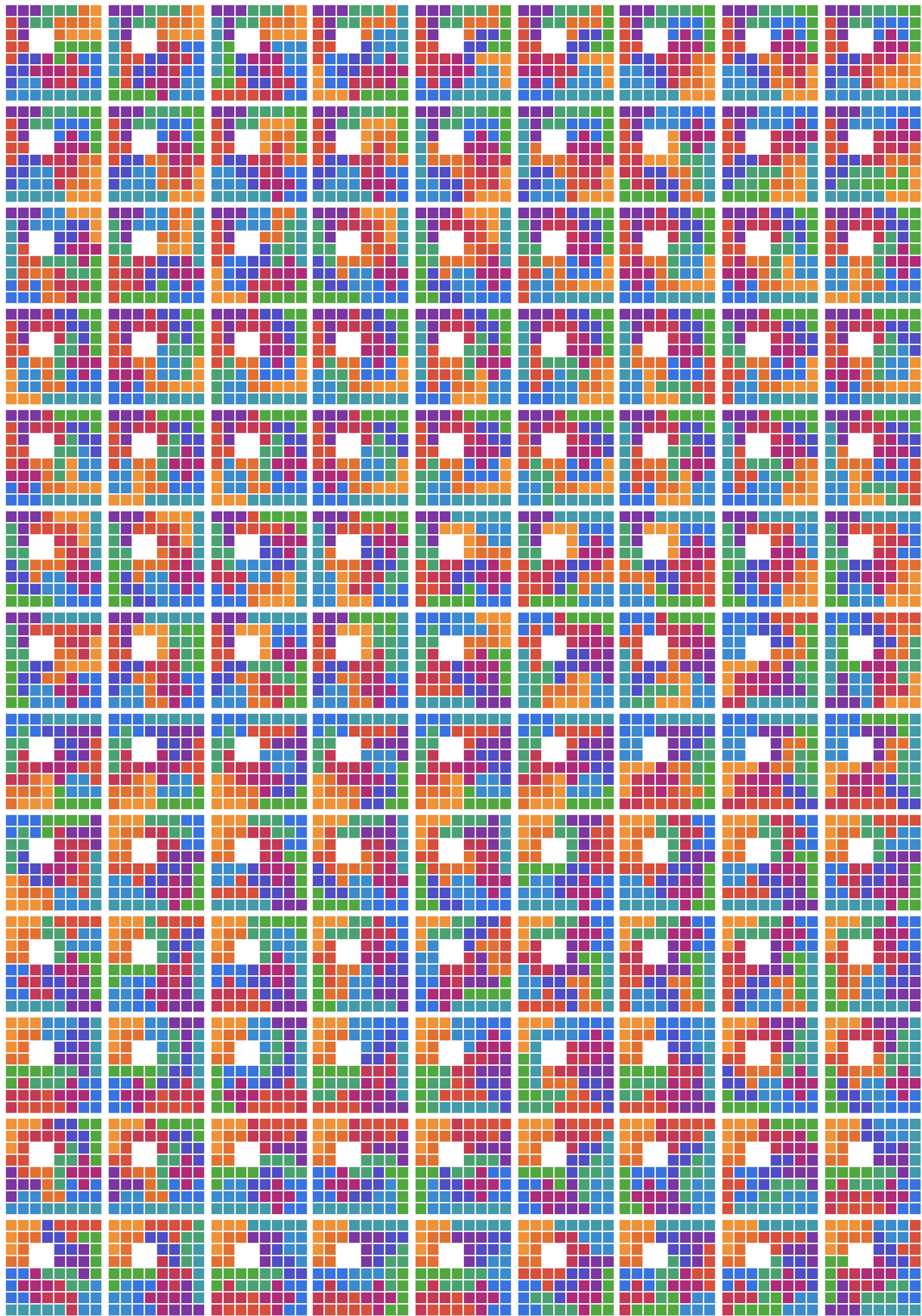


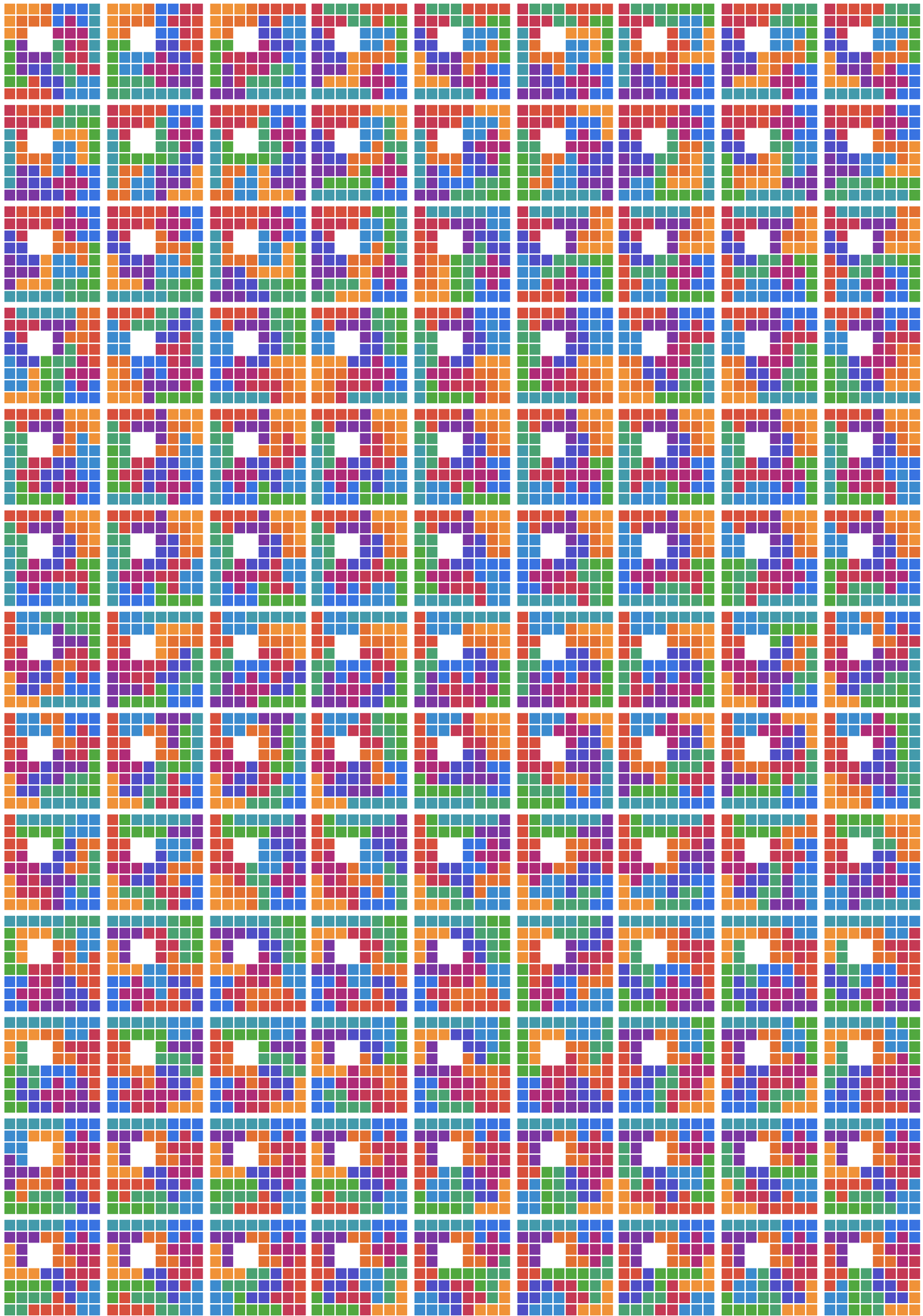


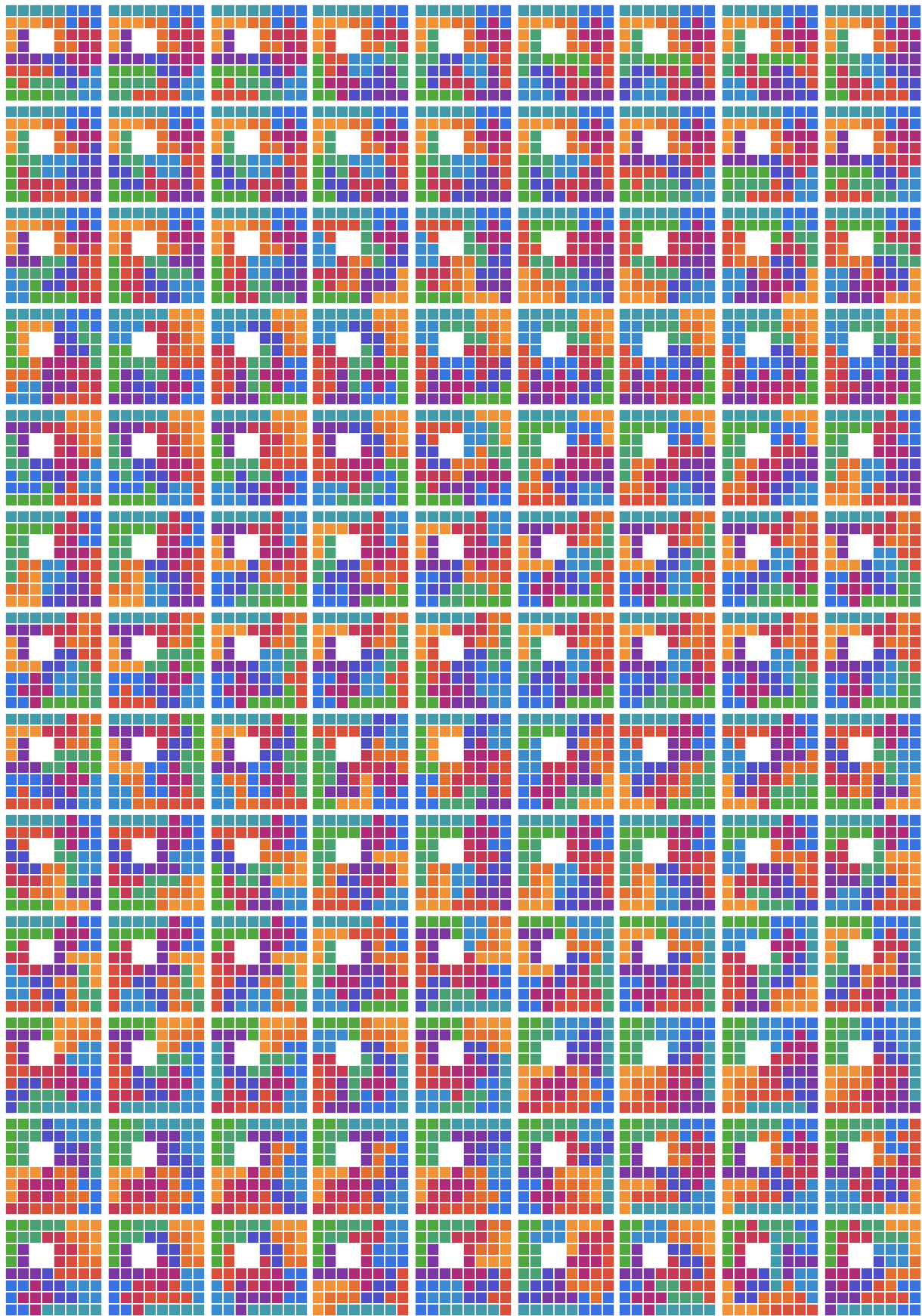
block3.2

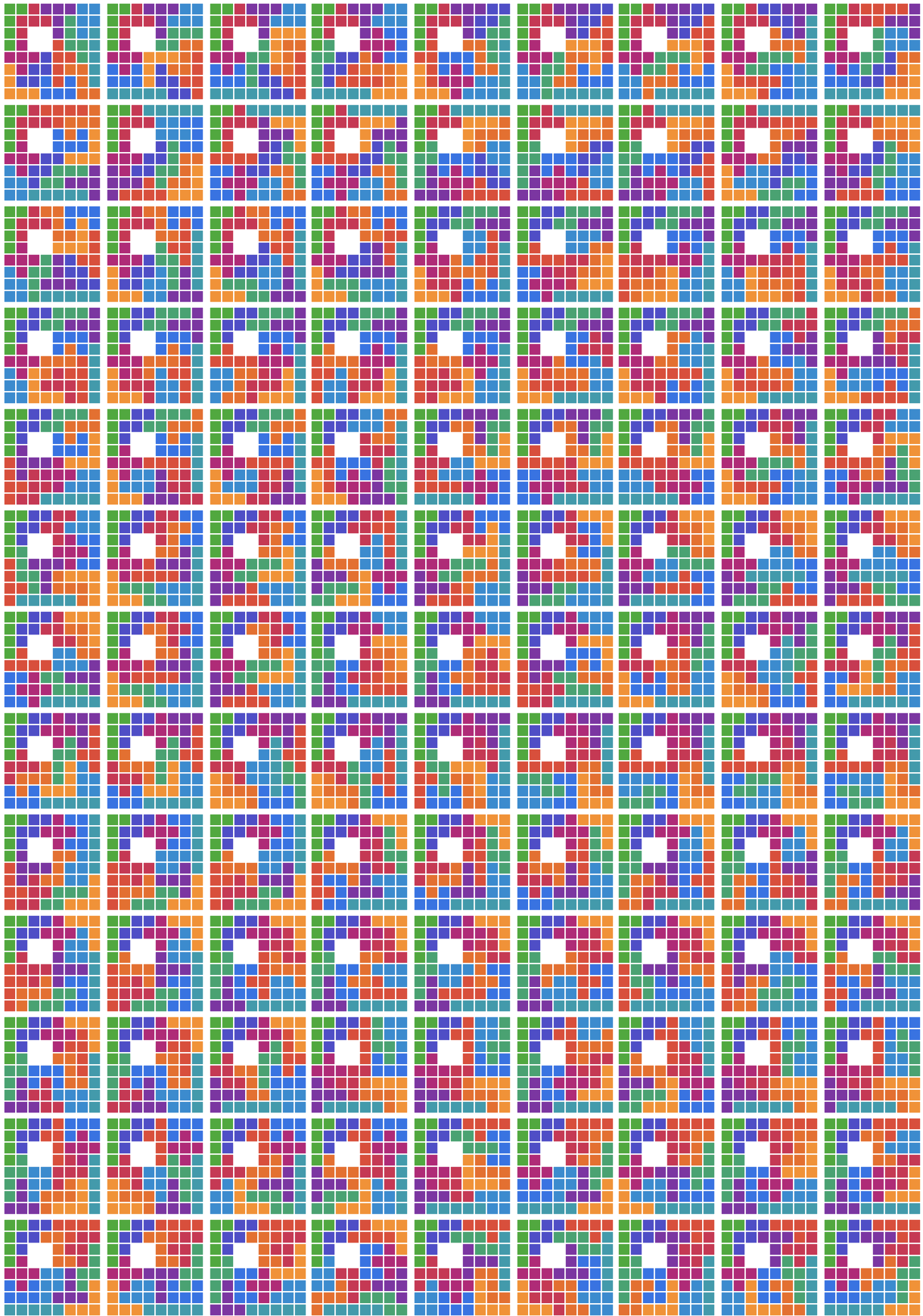
582 Solutions

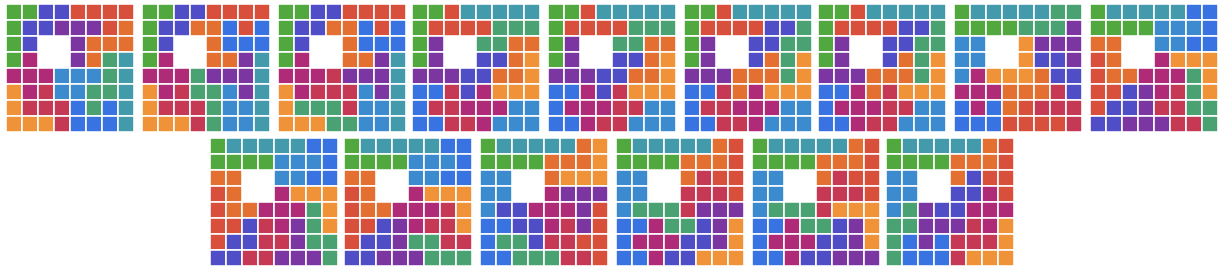


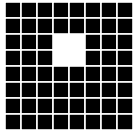












block3.3

768 Solutions

