

Nets and tilings as models for crystals

Olaf Delgado-Friedrichs

CG Week Brisbane, 4 July 2017

Olaf Delgado



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Periodic Tilings

Another Collatz Problem

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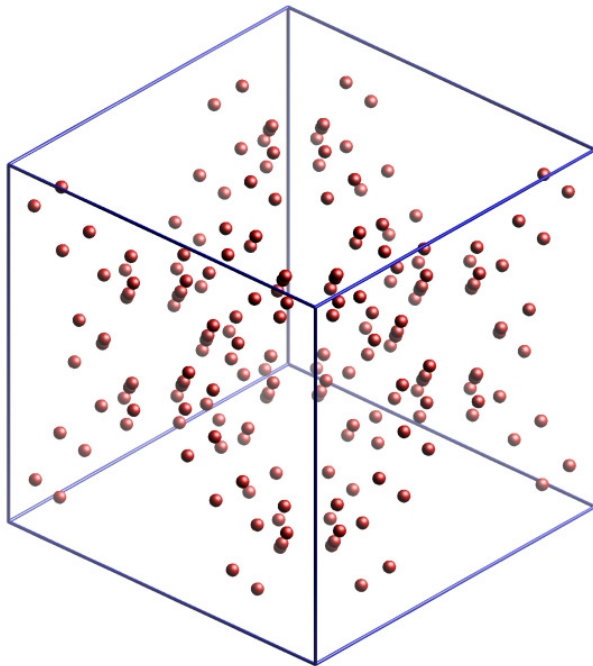
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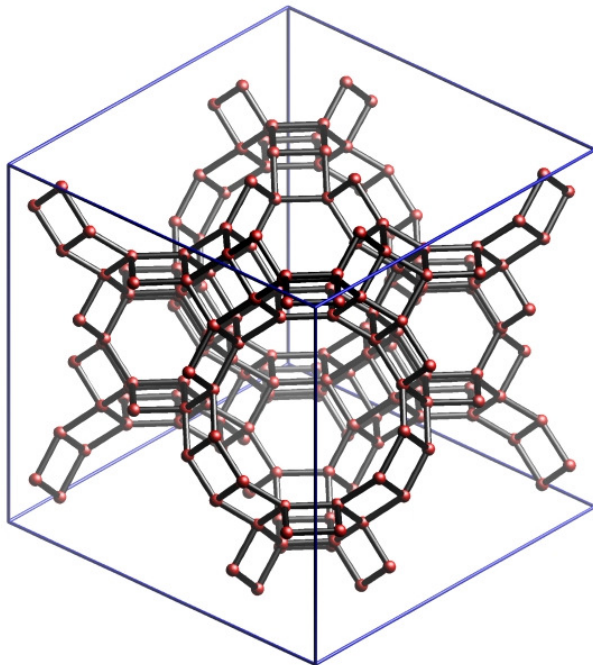
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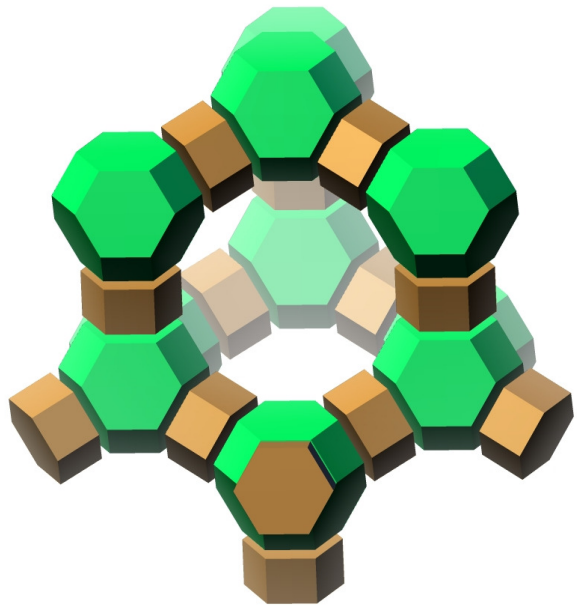
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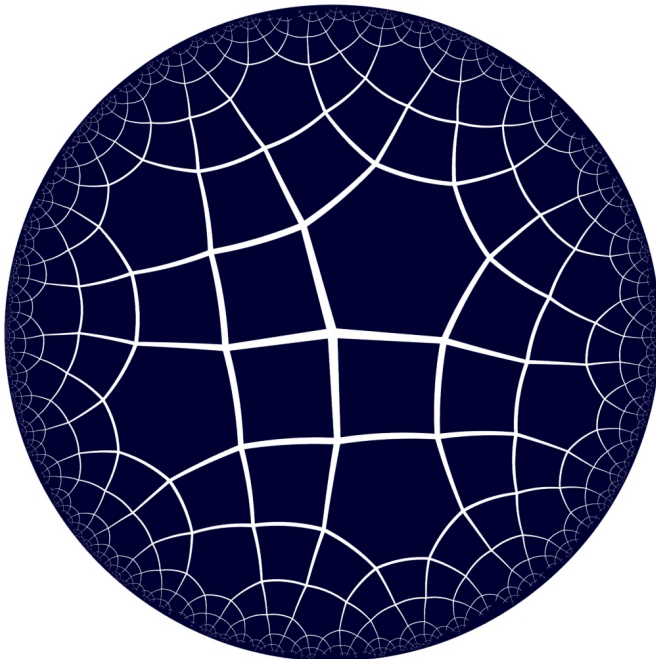
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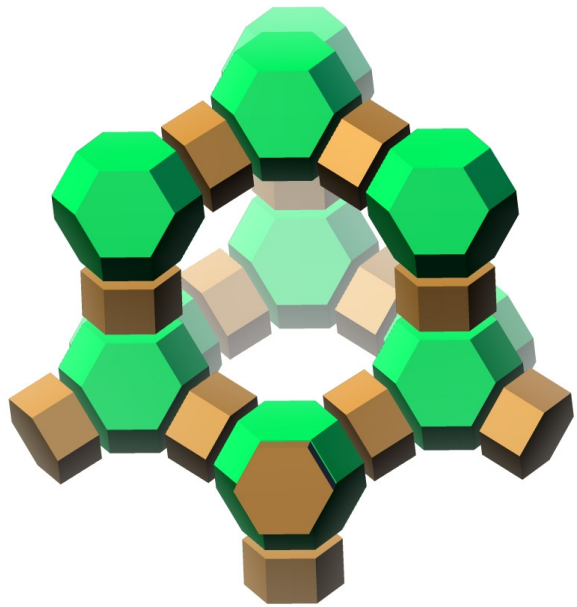
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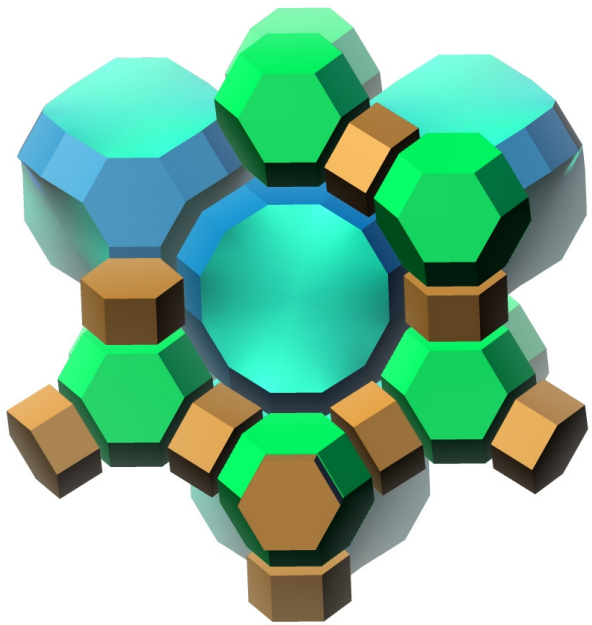
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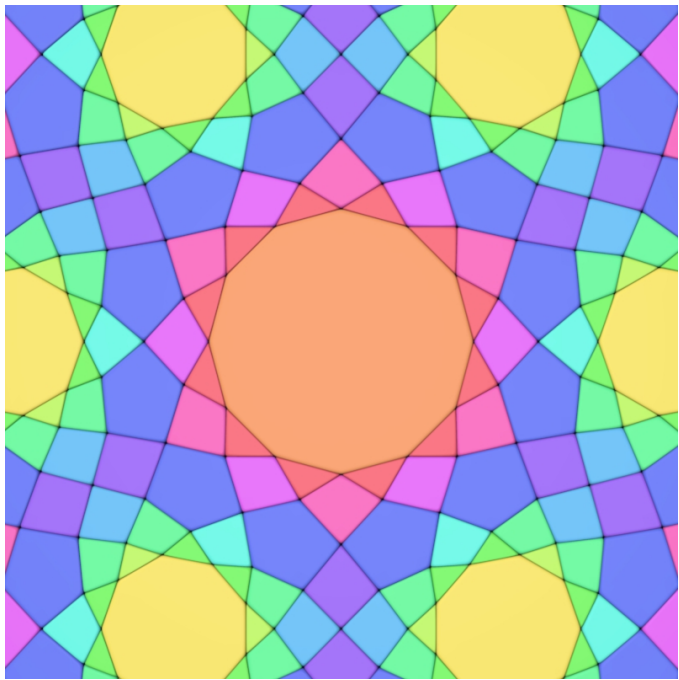
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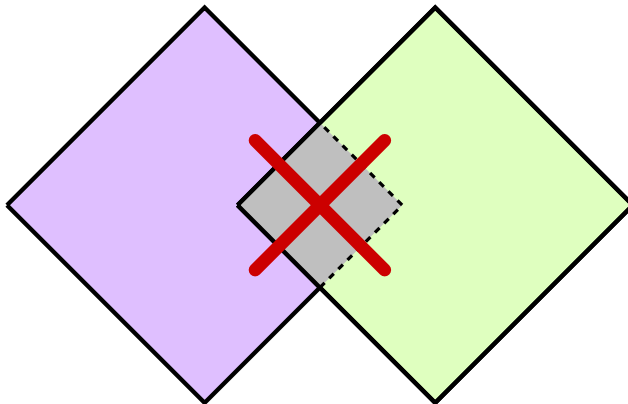
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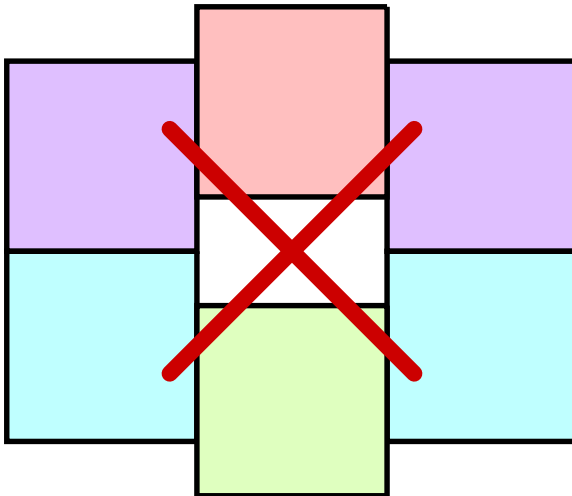
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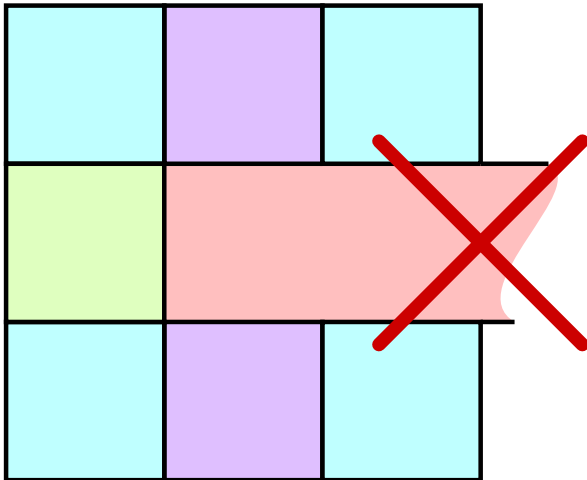
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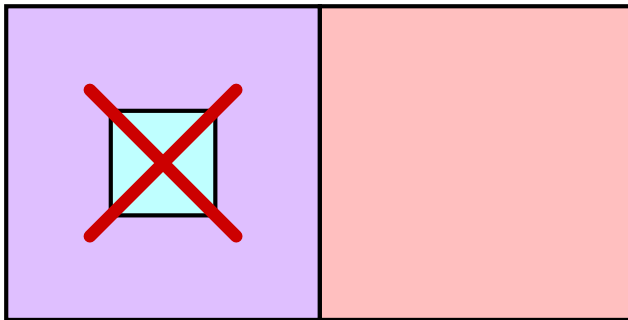
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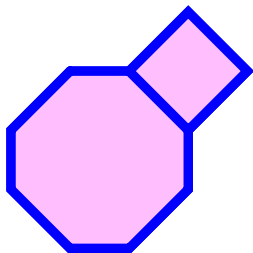
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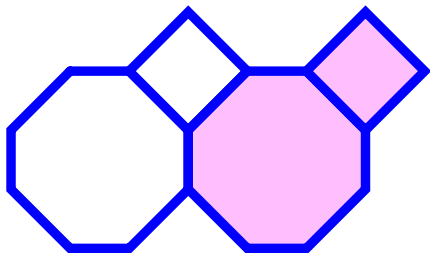
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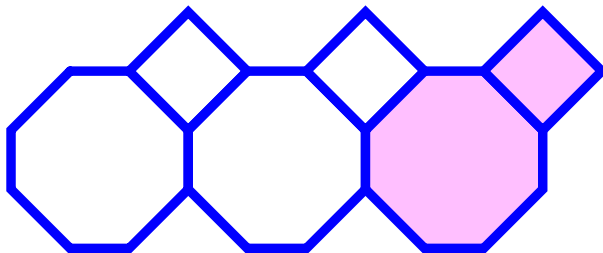
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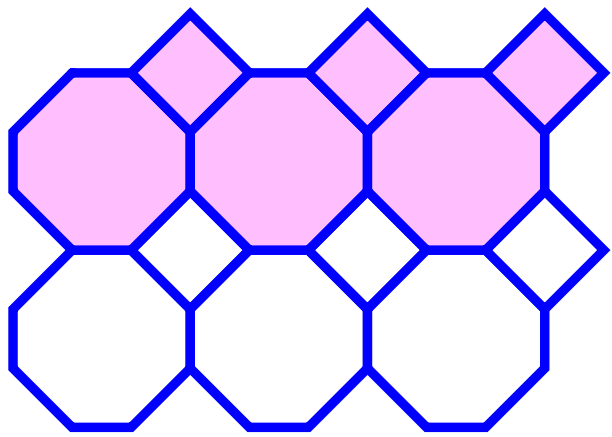
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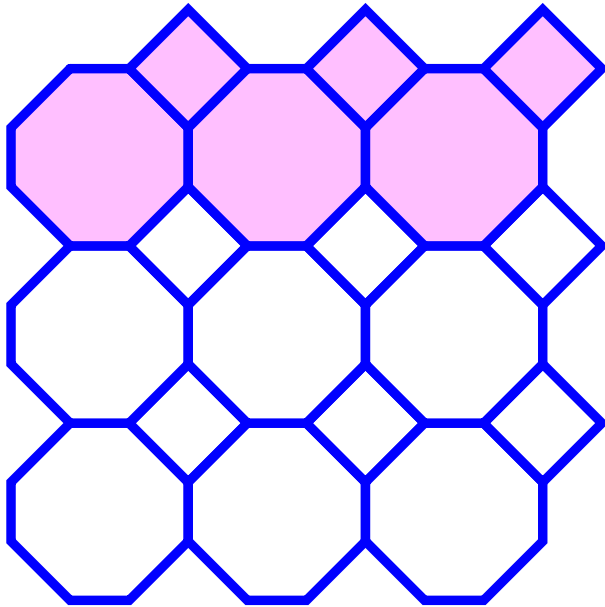
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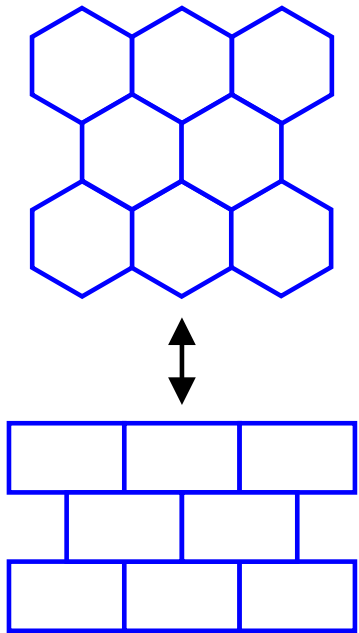
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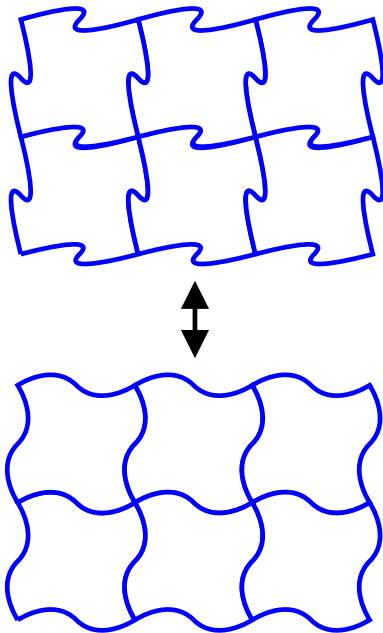
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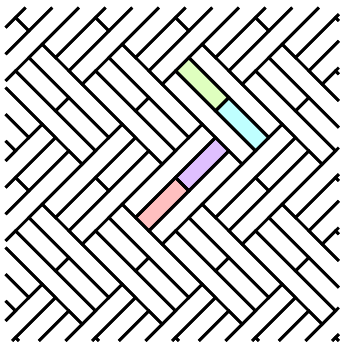
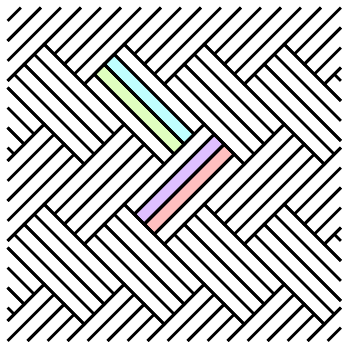
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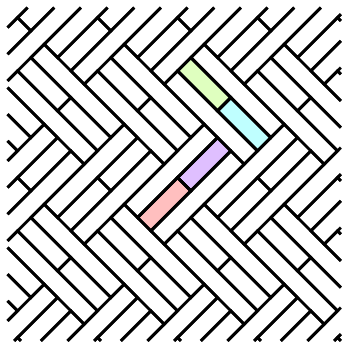
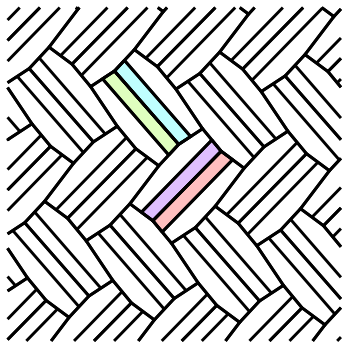
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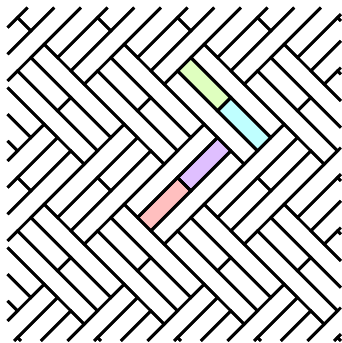
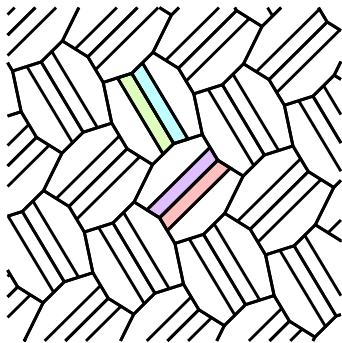
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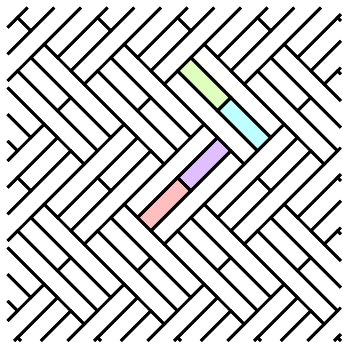
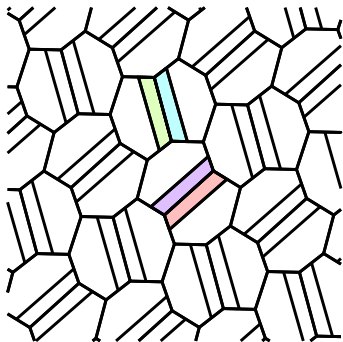
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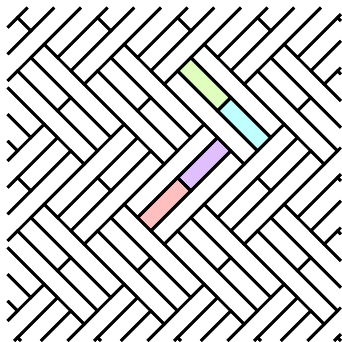
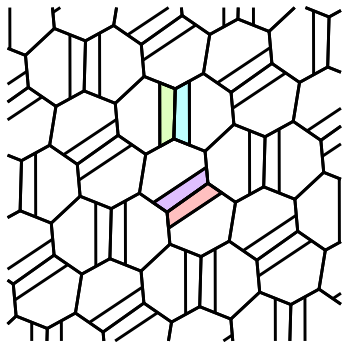
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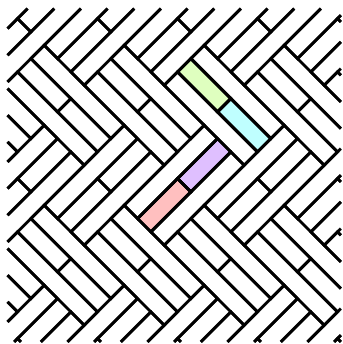
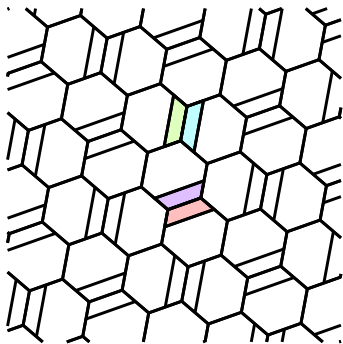
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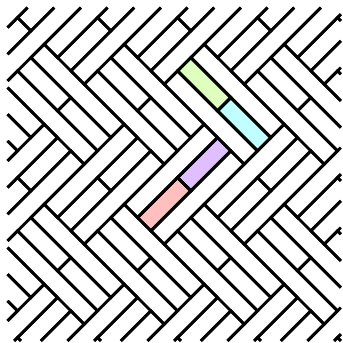
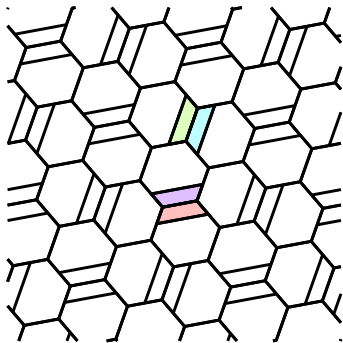
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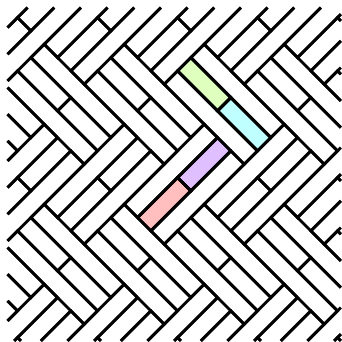
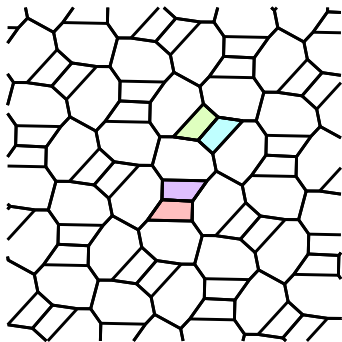
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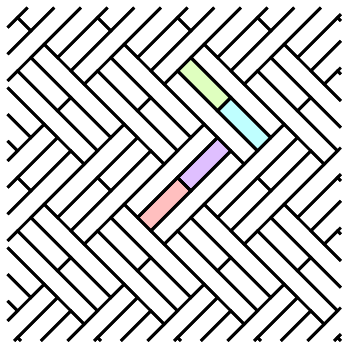
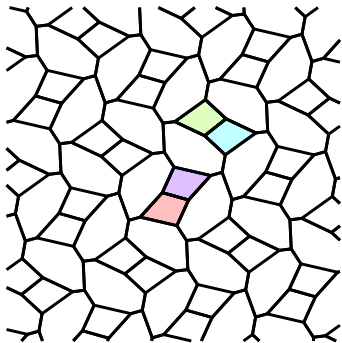
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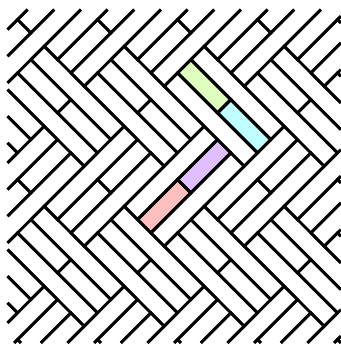
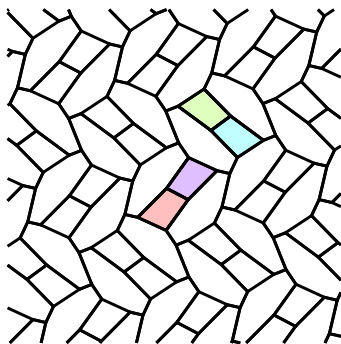
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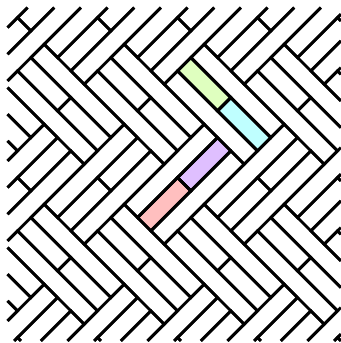
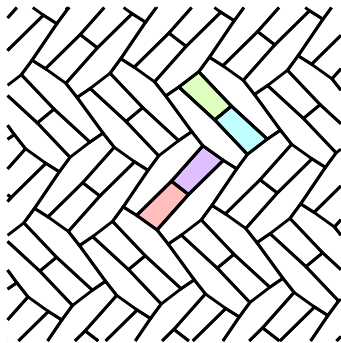
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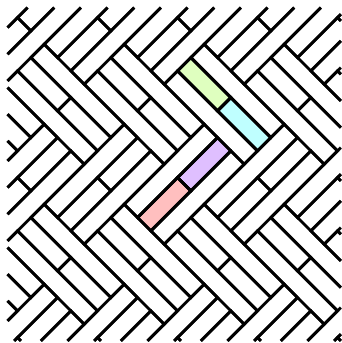
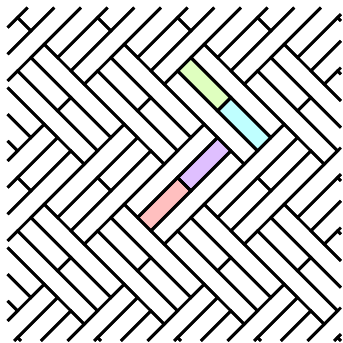
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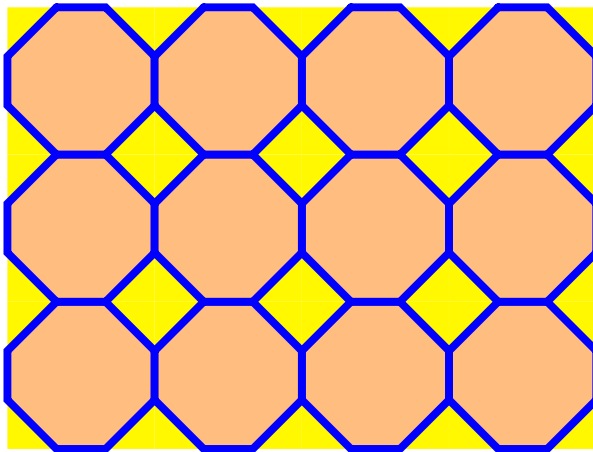
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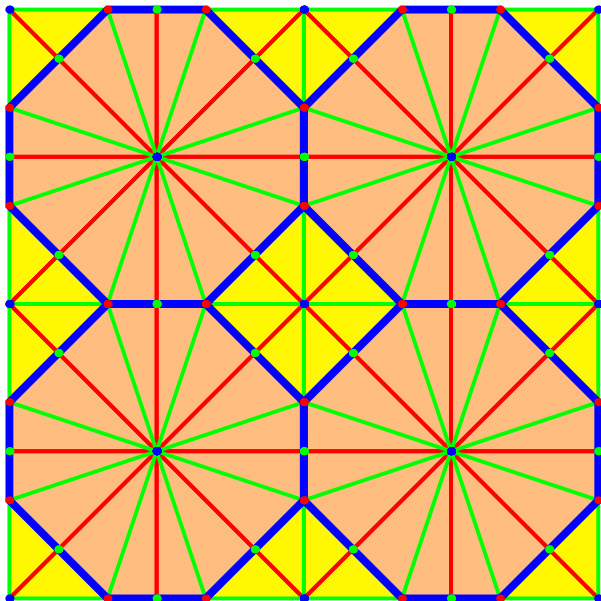
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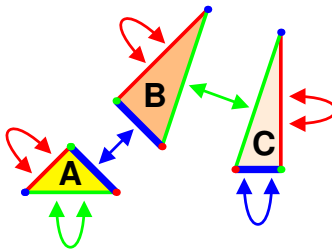
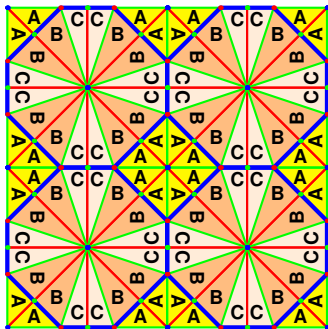
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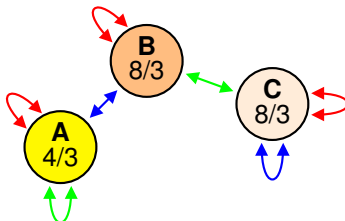
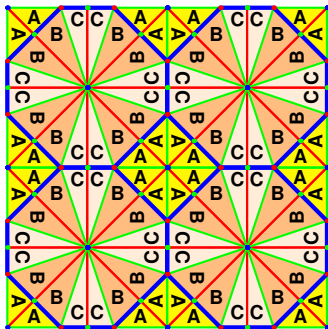
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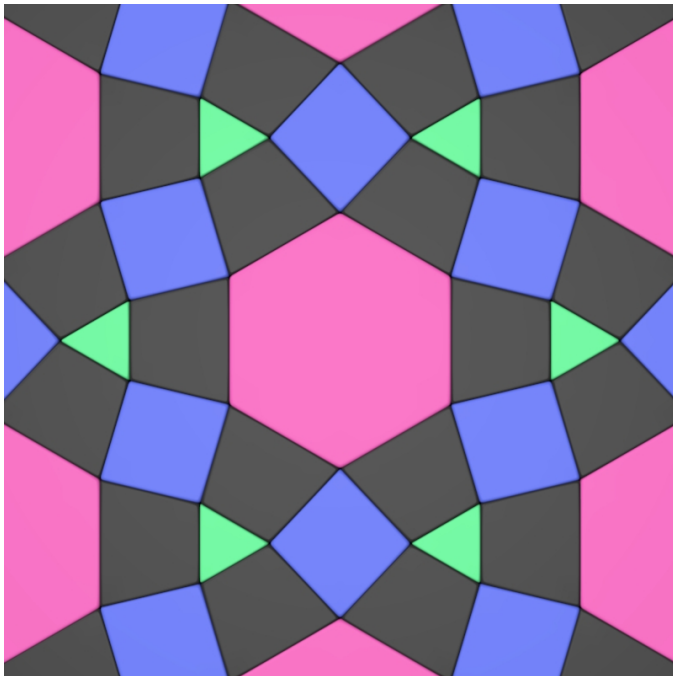
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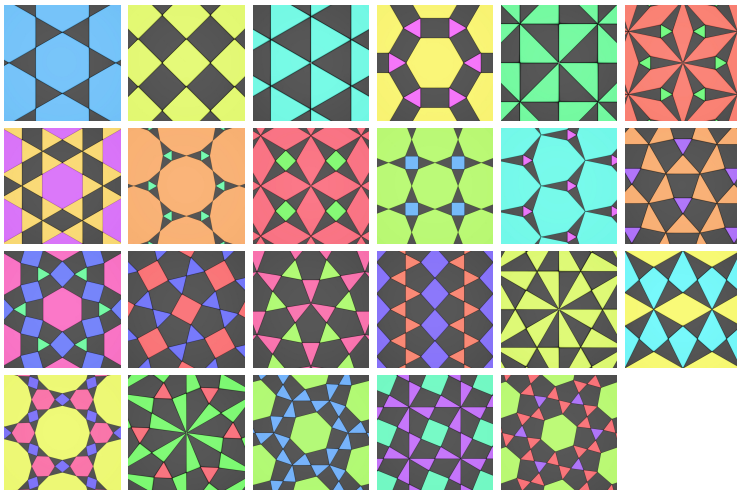
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A.W.M. Dress, D.H. Huson. *Revue Topologie Structurale*, 1991

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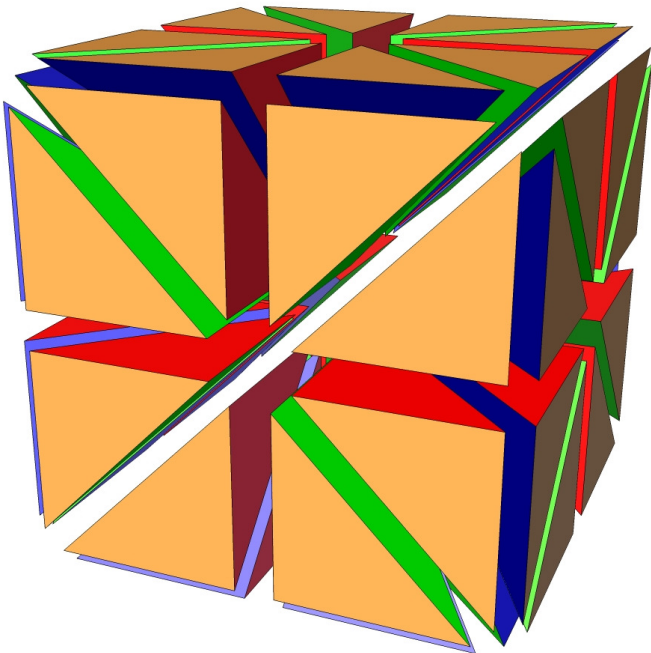
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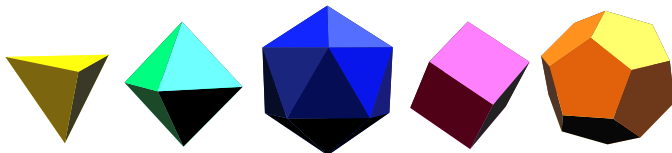
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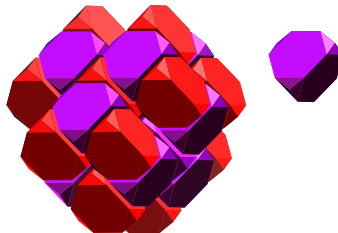
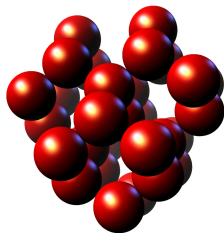
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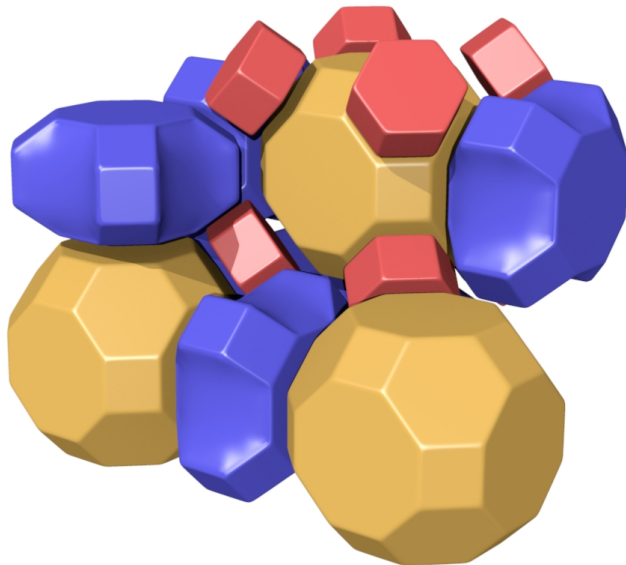
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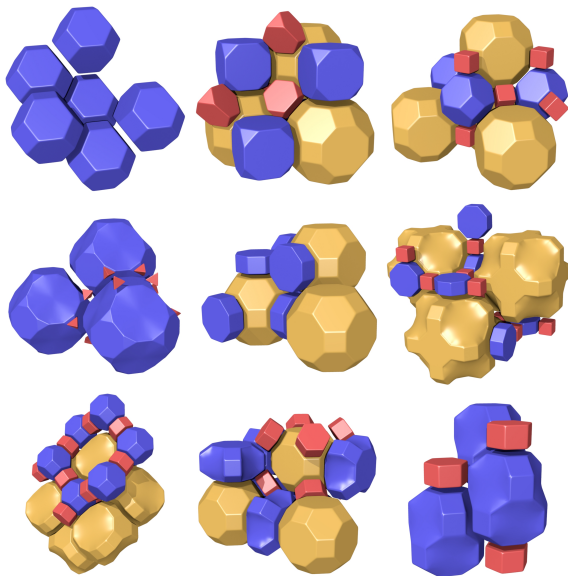
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Representing
Periodic Nets

Tutte's Barycentric
Embedding

Regular Nets

Demo



D.H. Huson, ODF. *Discrete & Computational Geometry*, 1999

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Crystal Model Hierarchy

Periodic Tilings

Another Collatz Problem

Delaney-Dress Symbols

Heaven And Hell

3d Tilings And Materials

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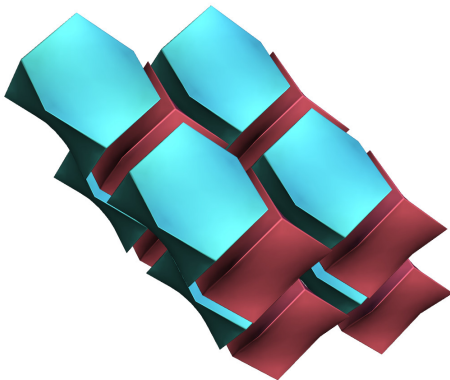
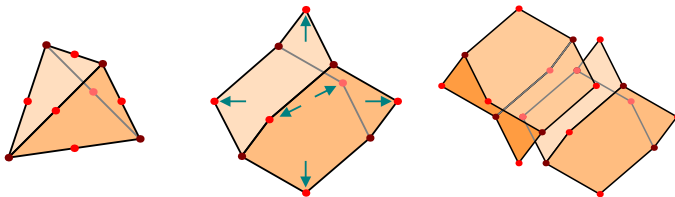
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Nets and tilings as models for crystals

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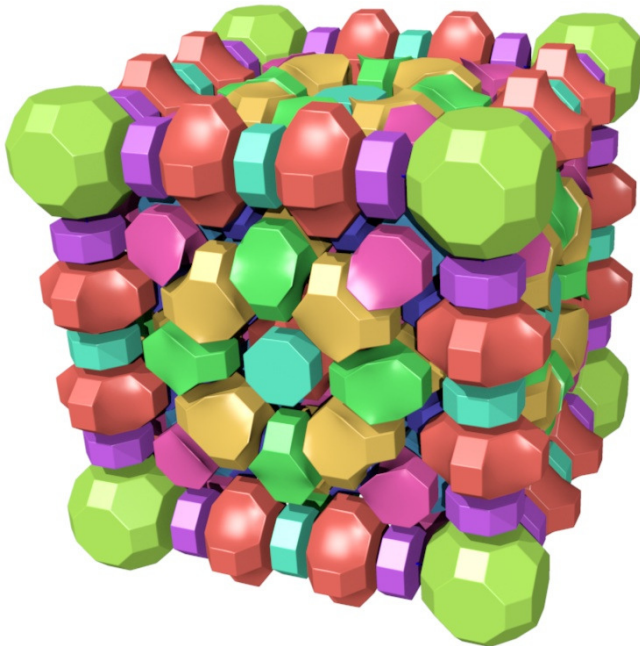
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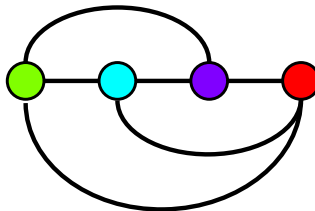
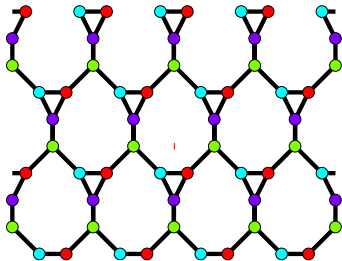
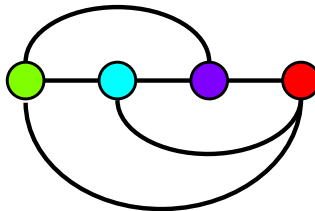
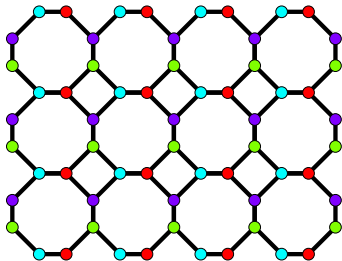
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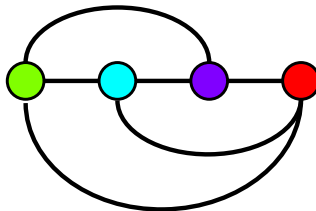
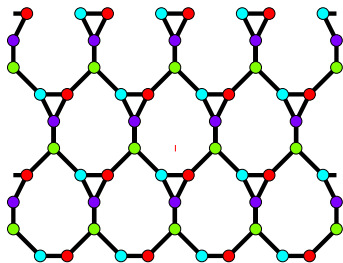
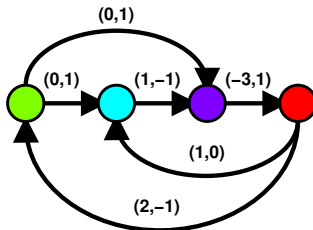
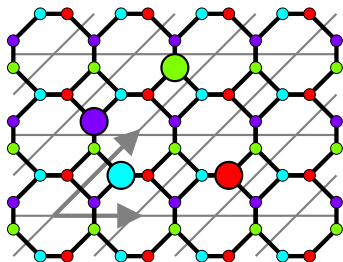
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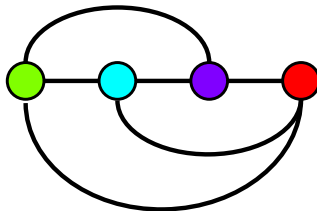
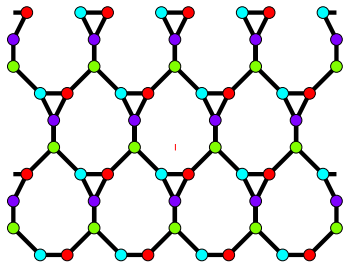
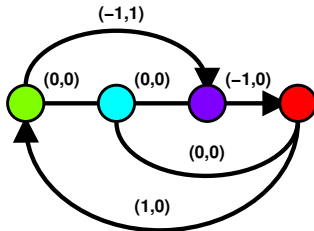
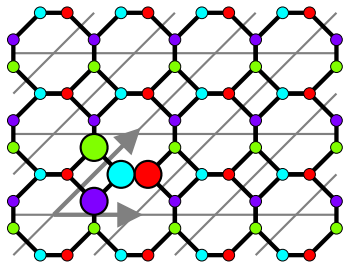
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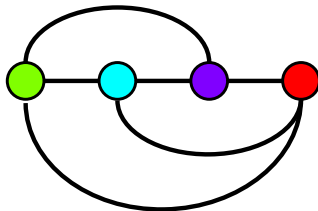
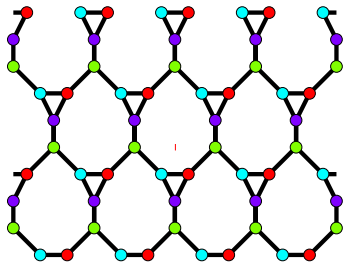
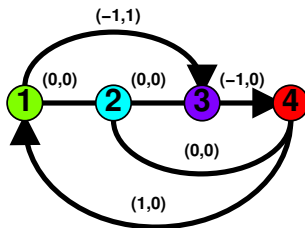
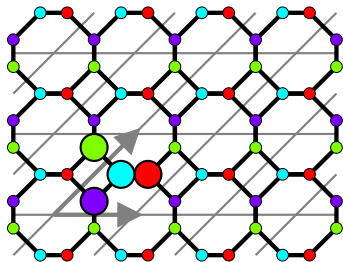
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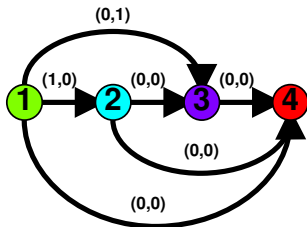
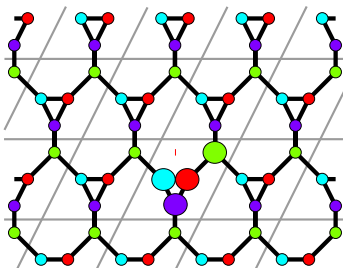
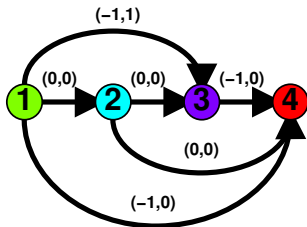
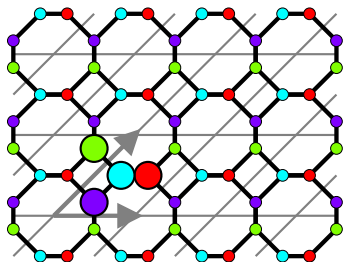
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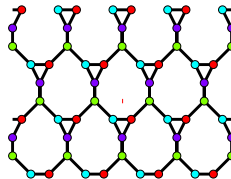
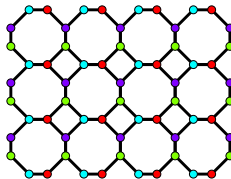
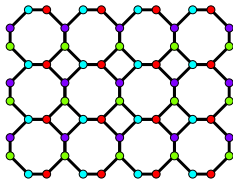
Demo



1	2	0	1
1	3	0	1
1	4	-2	1
2	3	1	-1
2	4	-1	0
3	4	-3	1

1	2	0	0
1	3	-1	1
1	4	-1	0
2	3	0	0
2	4	0	0
3	4	-1	0

1	2	1	0
1	3	0	1
1	4	0	0
2	3	0	0
2	4	0	0
3	4	0	0



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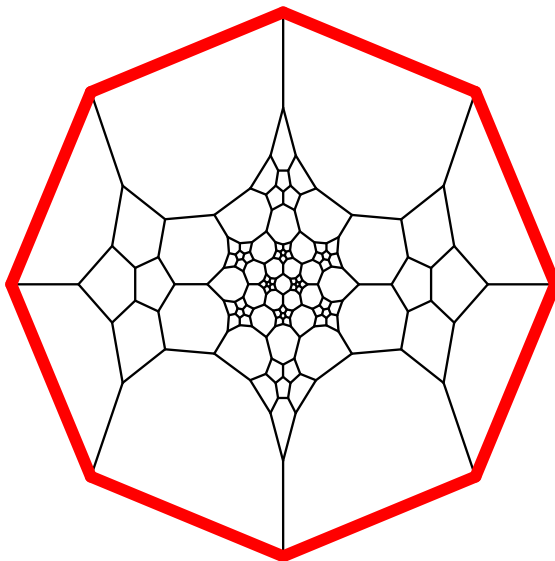
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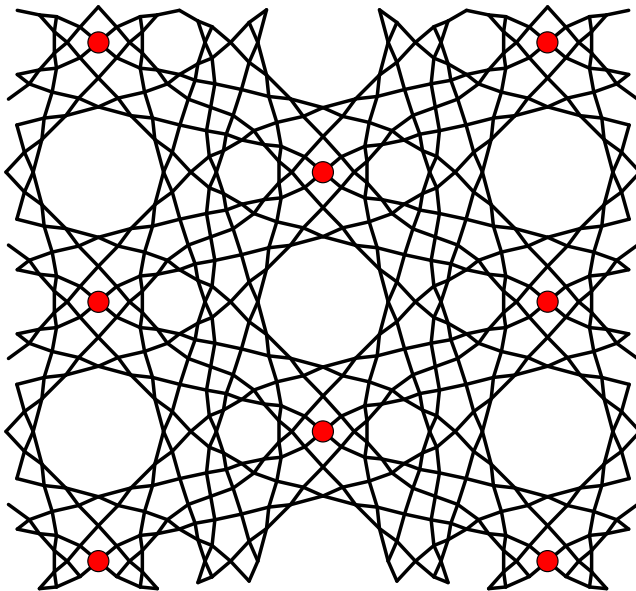
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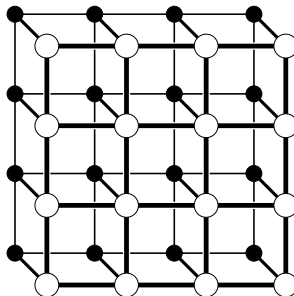
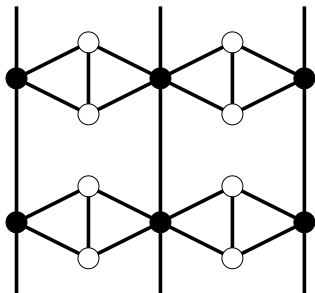
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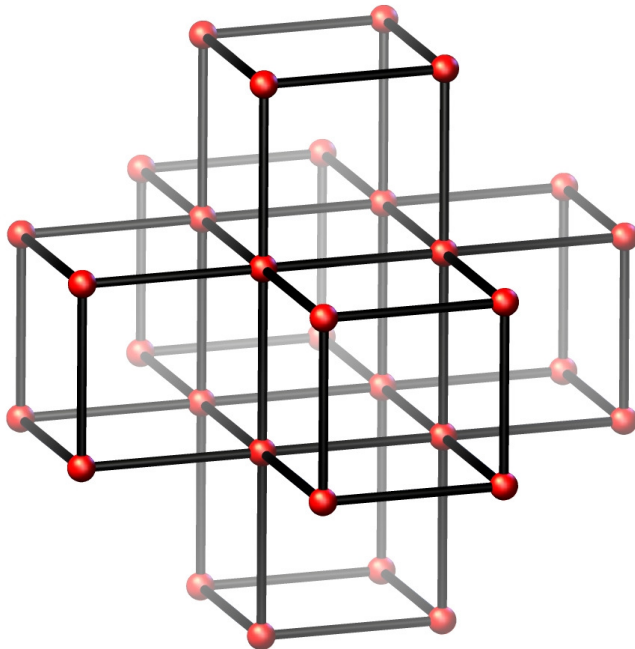
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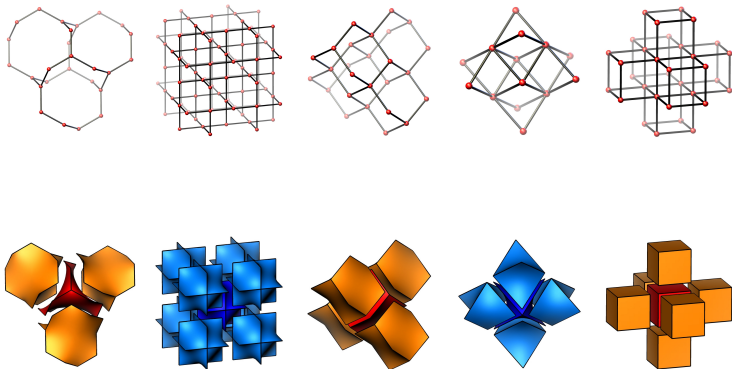
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M. O'Keeffe , O.M. Yaghi, ODF. *Acta Cryst A*, 2002

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