



JOURNAL OF
APPLIED
CRYSTALLOGRAPHY

Volume 53 (2020)

Supporting information for article:

Teaching periodicity and aperiodicity using 3D-printed tiles and polyhedra

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The supporting information comprises an additional figure and 36 downloadable and 3D-printable STL files. Fig. S1 regards the dissection puzzle of four R hexagonal cells presented in section 2.2.

Files featuring polygonal tiles described in section 2.1 are labelled from 1 to 8; belong to the same section the Escher-inspired tiles: files lizard.stl, lizard_cell.stl and lizard_AU.stl.

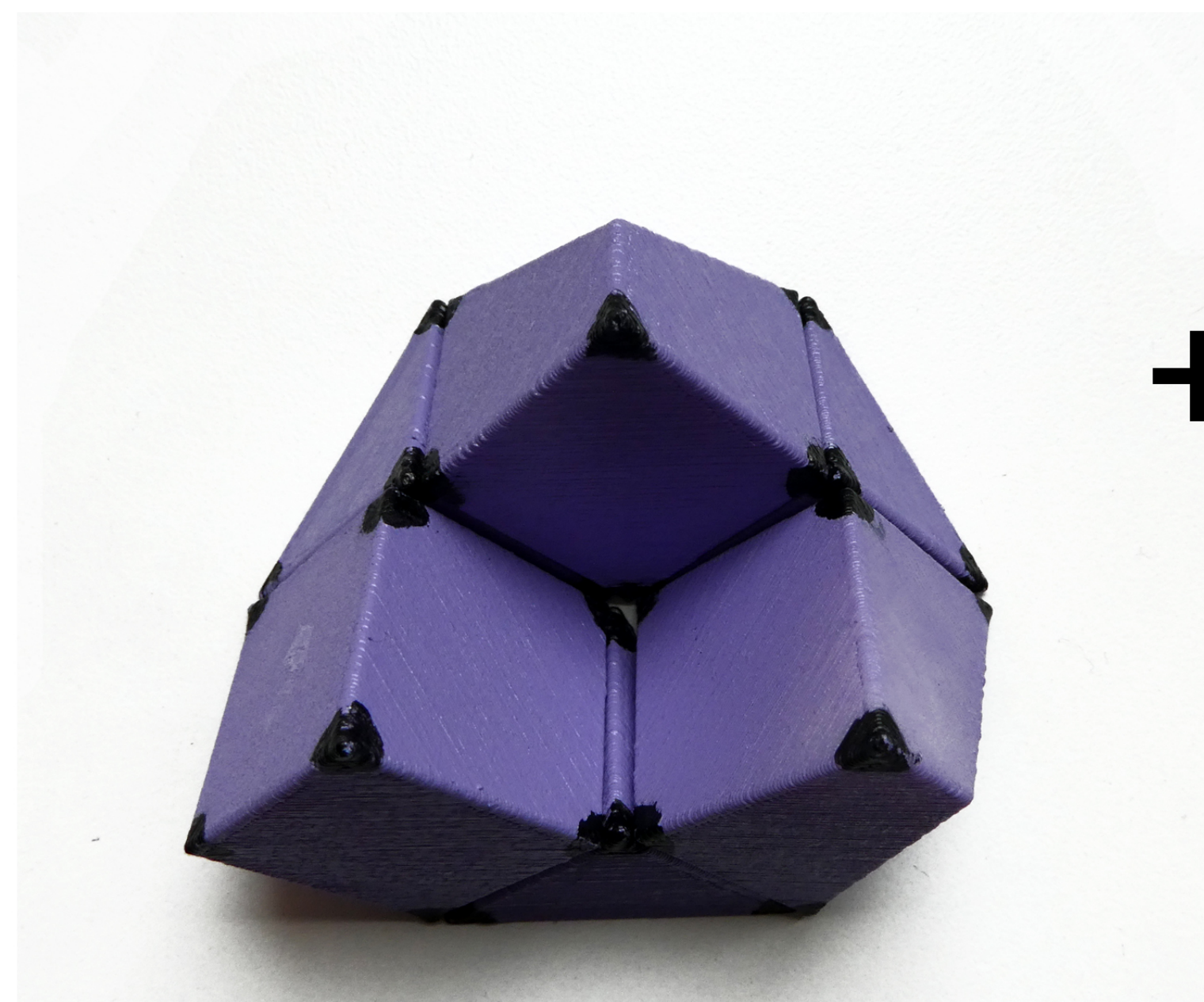
The ten files required for the dissection puzzle of four R hexagonal cells presented in section 2.2 are labelled with Greek letters names from alpha to kappa, as shown in Fig. 5; to the same section belong the 3D designs related to space group $P2_1/c$: files SG14_AUright.stl, SG14_left.stl with the two enantiomorphic versions of the asymmetric unit and SG14_rightq.stl and SG14_leftq.stl. These last two contain the same two asymmetric units sectioned in four parts.

Files featuring prototiles for the 2D aperiodic tilings presented in section 3.1 are named according to its tiling and shape: P2dart.stl, P2kite.stl, P3thick_rhomb.stl, P3thin_rhomb.stl, A5rhombus.stl and A5square.stl.

Finally, the files featuring prototiles for the 3D aperiodic tiling presented in section 3.2 are named according to the corresponding isozonohedra: oblate_rh.stl, prolate_rh.stl, rh_dodecahedron.stl, rh_icosahedron.stl and triacontahedron.stl.

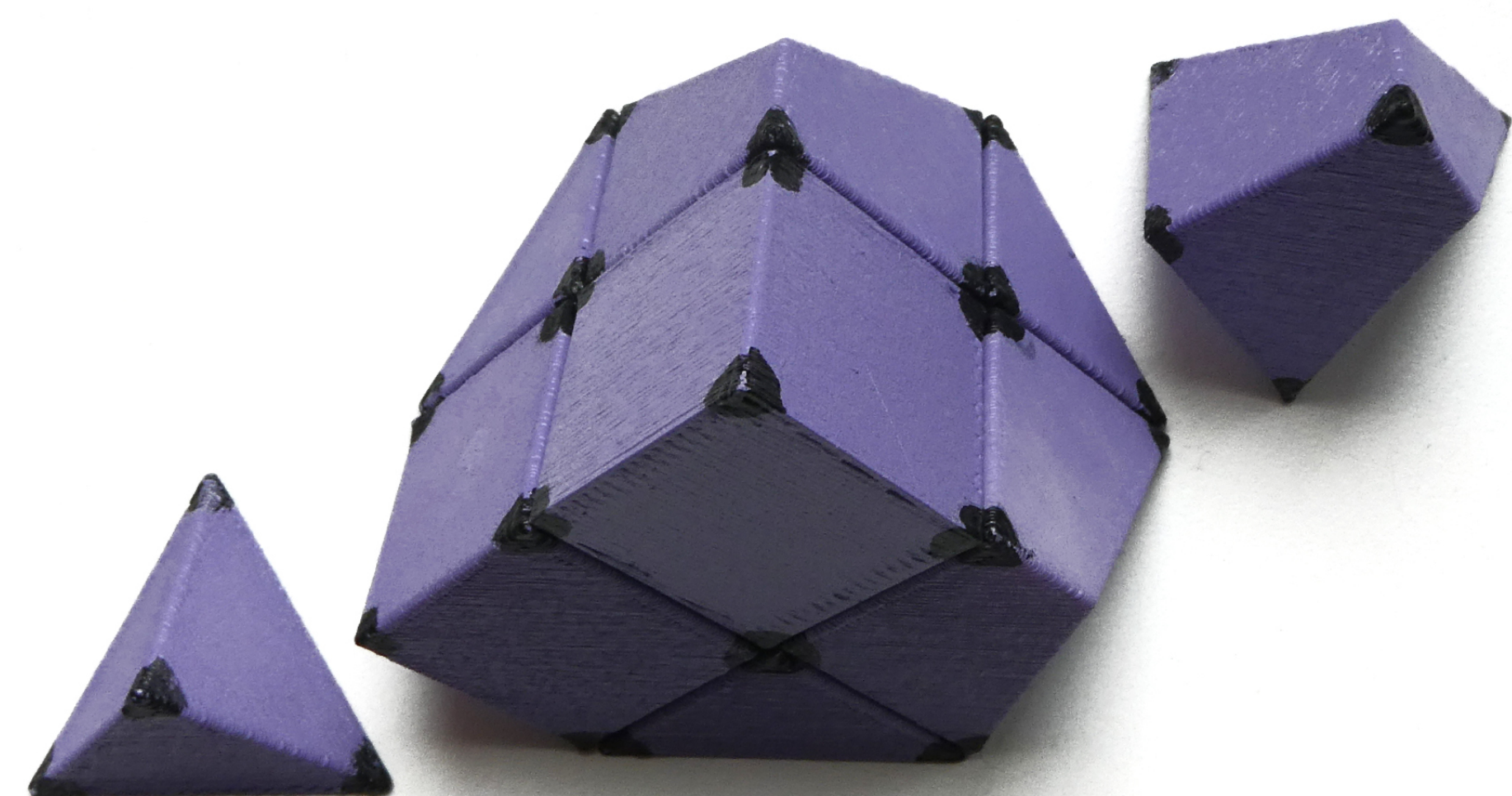
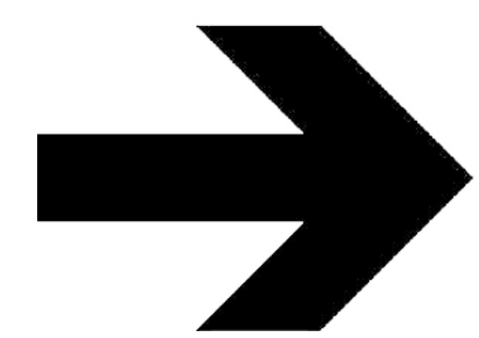
All the files can be scaled to be printed at the desired size and those corresponding to prototiles should be printed many times to produce large tilings.

Figure S1 Steps showing how to assemble the dissection puzzle of four R hexagonal cells, pieces are called according to labels shown Fig. 5a.

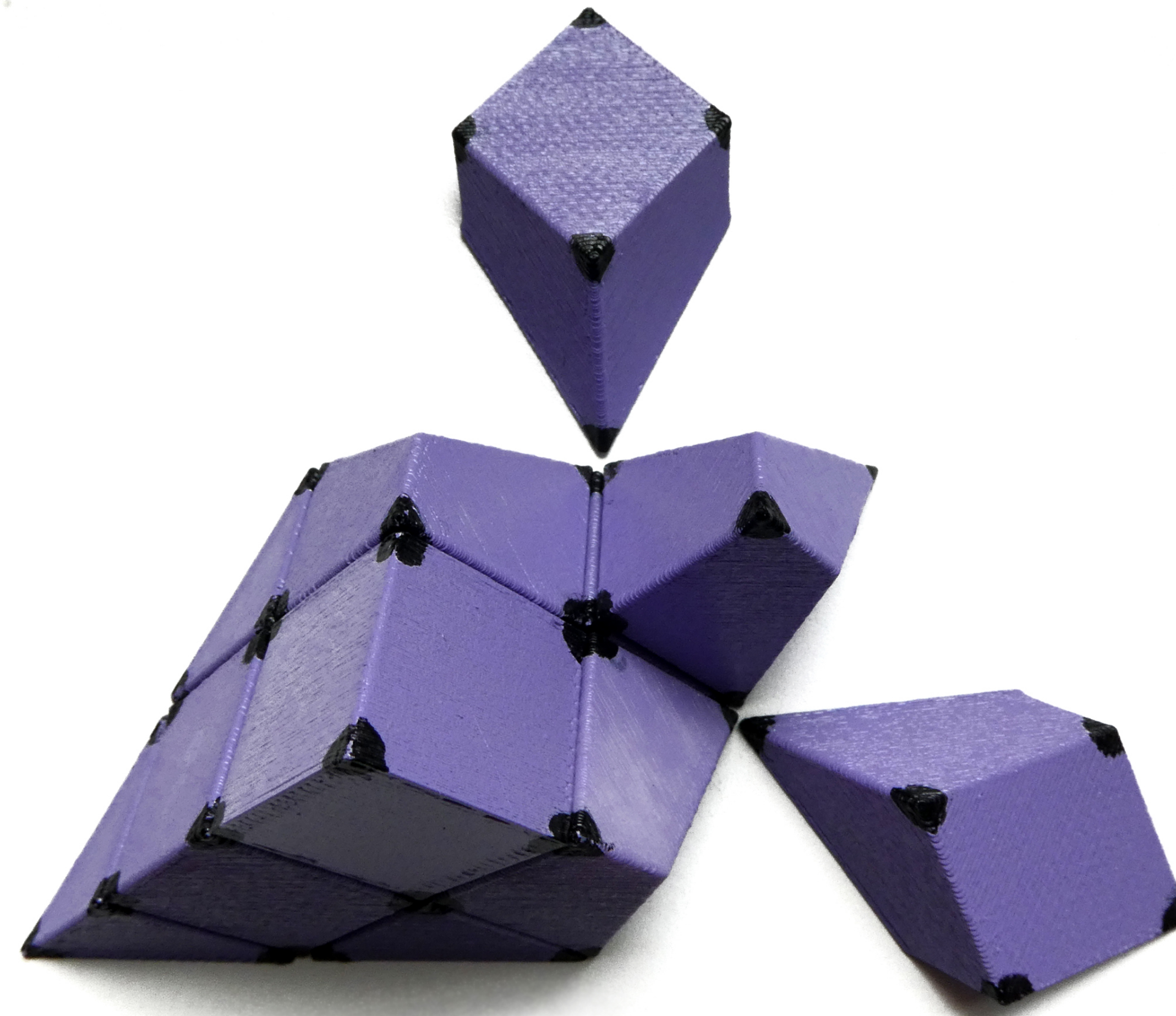
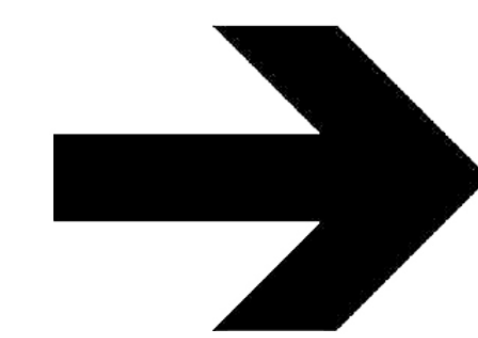


$$3\iota + \delta + 2\gamma$$

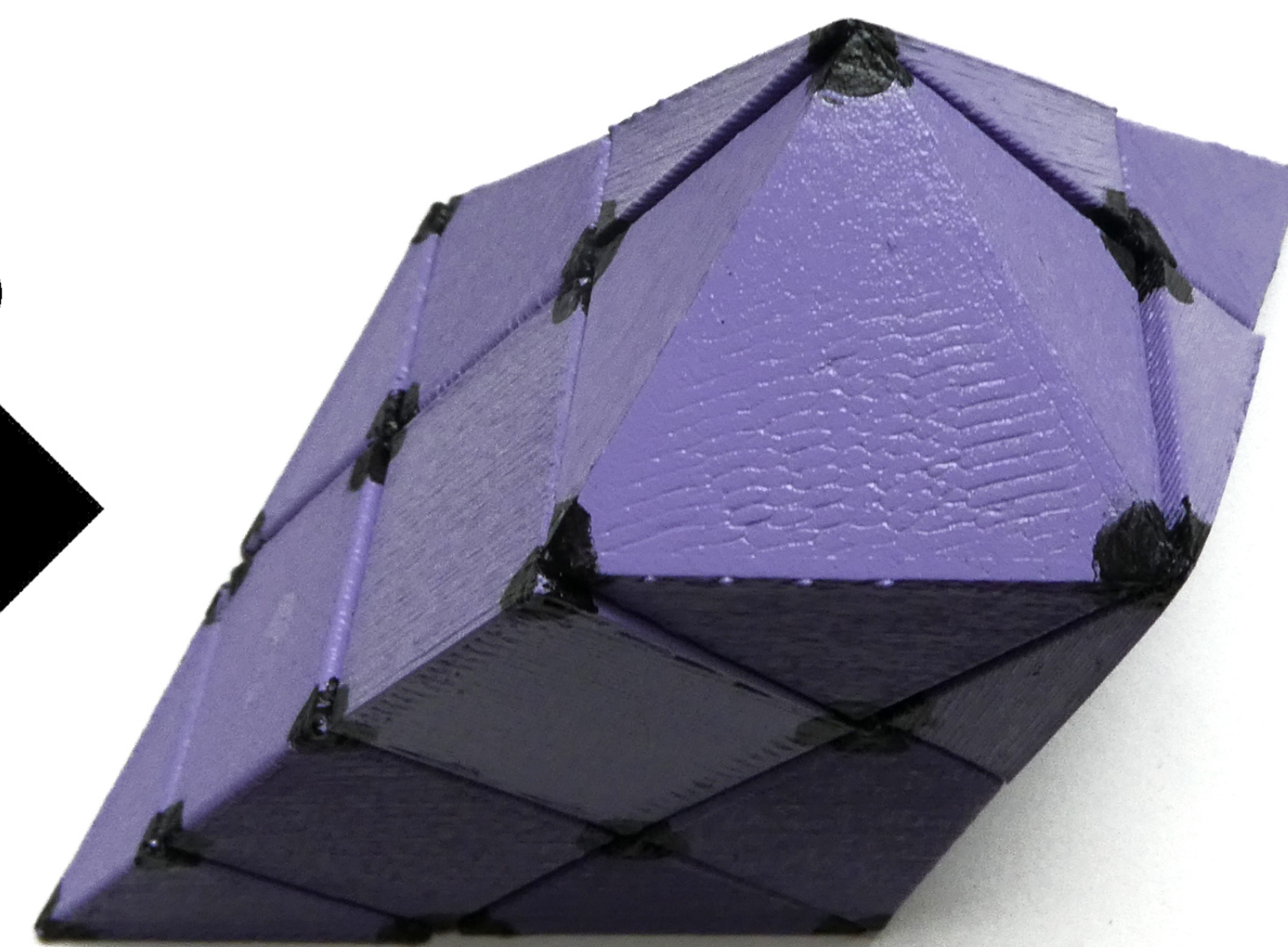
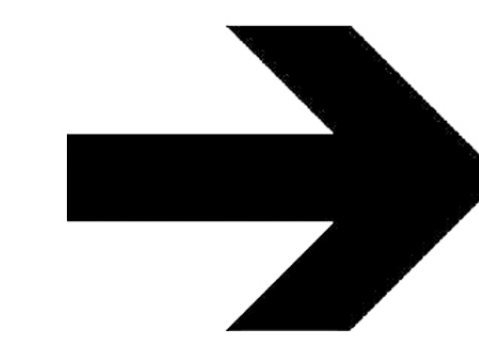
$$+ \varepsilon + \iota + \beta$$



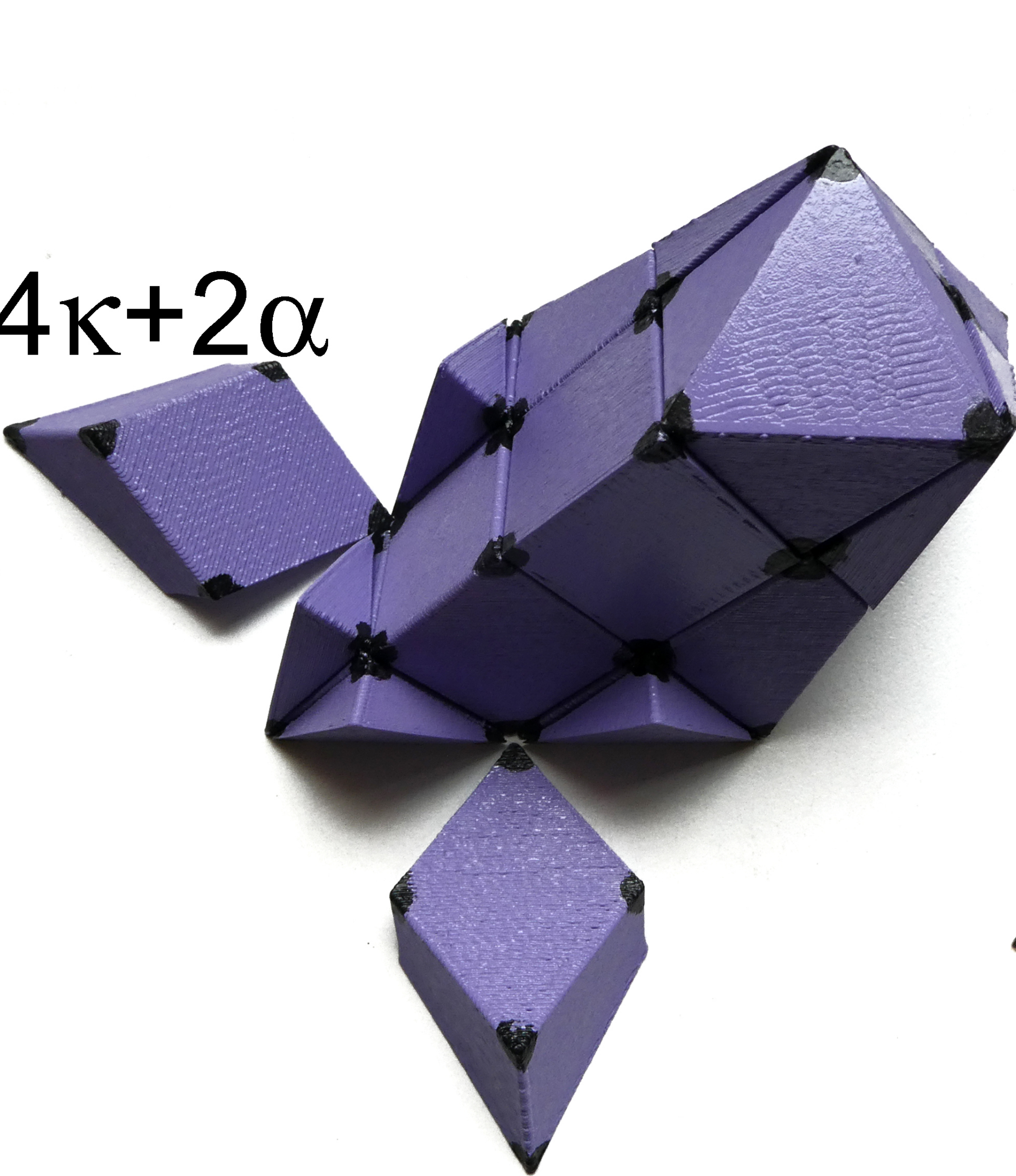
$$+ 2\alpha$$



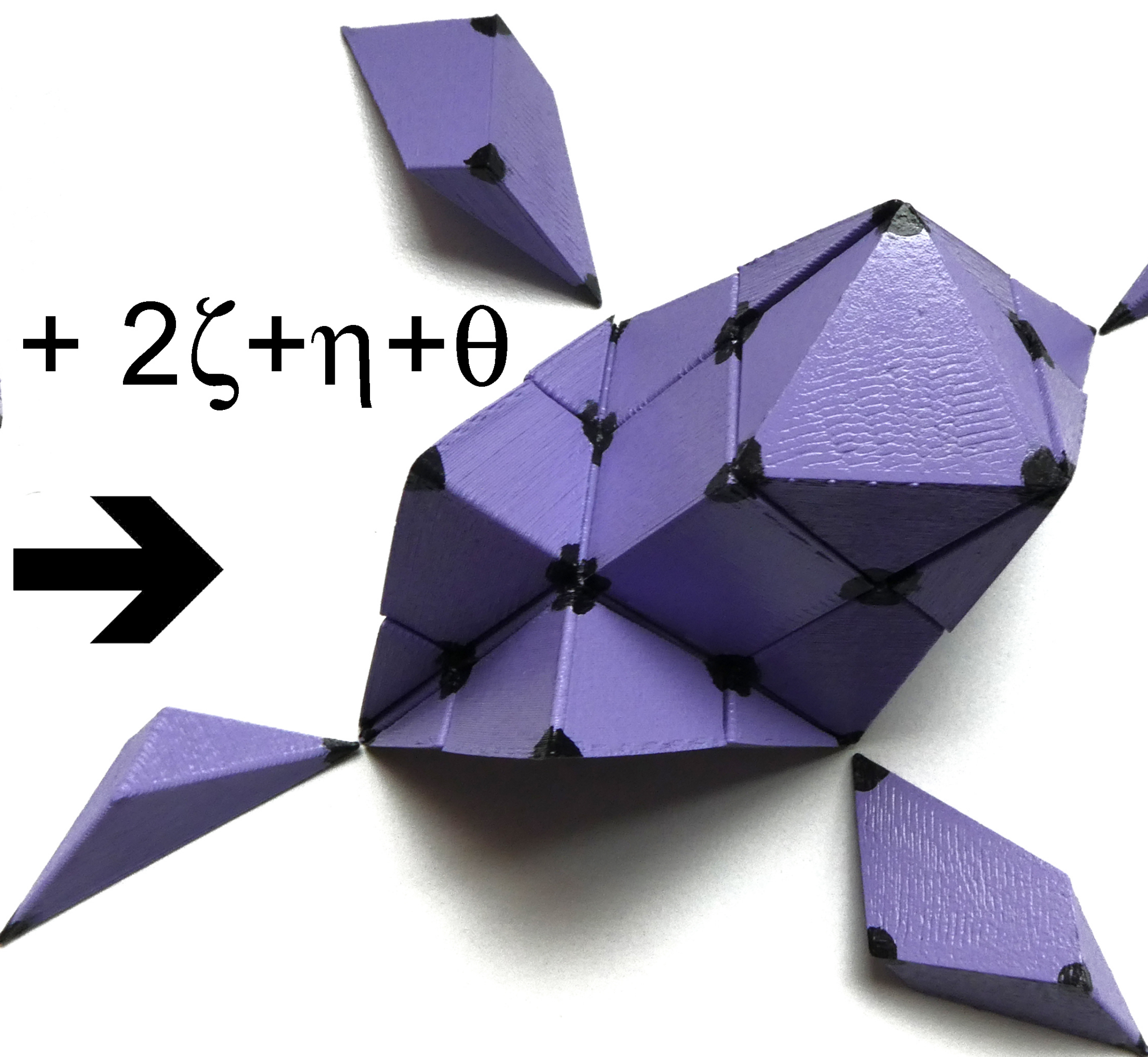
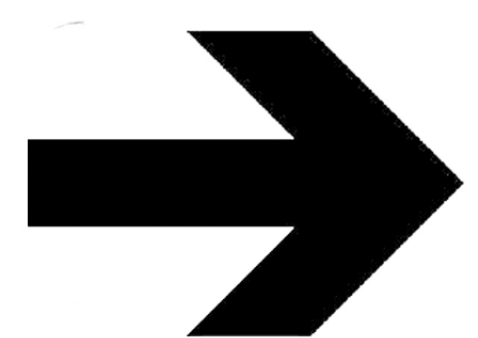
$$+ \delta$$



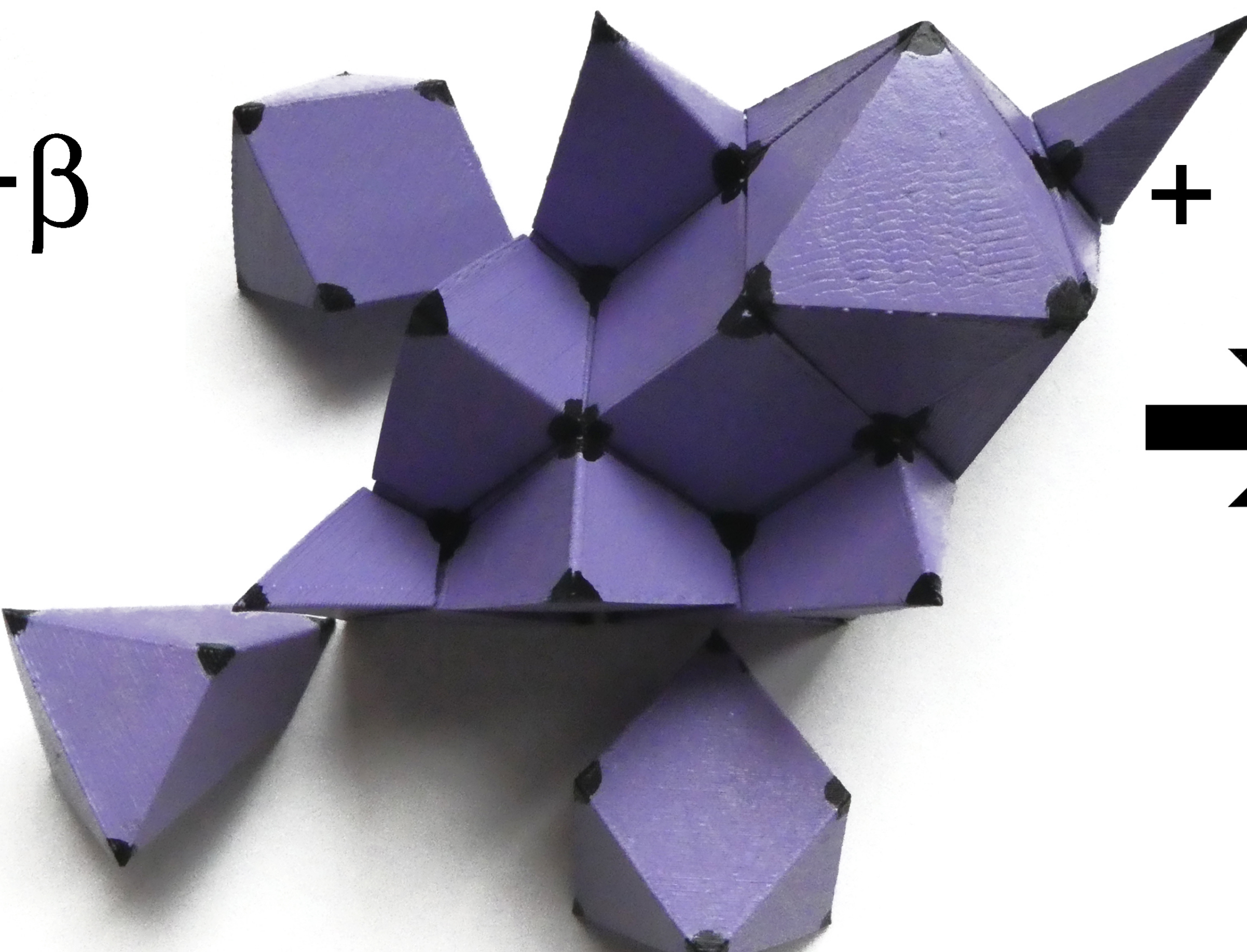
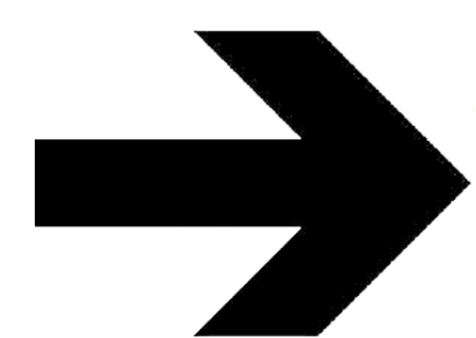
$$+ 4\kappa + 2\alpha$$



$$+ 2\zeta + \eta + \theta$$



$$+ 2\gamma + \beta$$



$$+ 4\iota + 4\kappa$$

