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Exploring shape space for densest random sequential adsorption packing

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Random sequential adsorption of various shapes built of disks is studied to determine the shape, which follows to densest random packing. Using the evolutionary algorithm to sample the space of shapes, we found that independently of the number of used disks, the optimal shape tends to a triangle with rounded corners. Thus, we run the same algorithm to study packings built of rounded polygons. Both these approaches indicate that the shape building the densest RSA packings is the rounded triangle, for which the packing fraction is 0.600608 ± 0.000017 , which is the highest known value so far.

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