Convex Presentations of Translation Surfaces

A translation surface is a collection of polygons in the plane with sides identified by translation. These seemingly simple objects have been at the forefront of modern mathematics, being the main object of study in the work for which Maryam Mirzakhani won the 2014 Fields Medal and Alex Eskin the 2020 Breakthrough Prize.
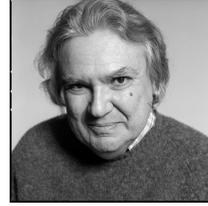
A translation surface is said to have a convex presentation if, up to cut and paste, the translation surface can be presented as a single convex polygon in the plane with opposite sides identified.
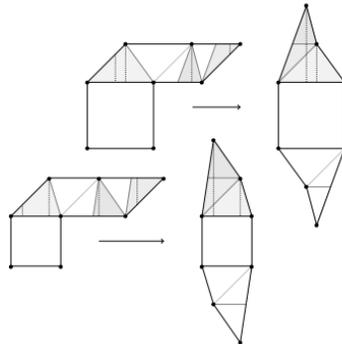
Questions

(1) Are there genus three translation surfaces with more than one convex presentation? More than 8?

(2) What does the "moduli space" of all convex polygons look like? What about the moduli space of convex polygons with area one? What is the volume of this moduli space?

(3) A translation surface is called square-tiled if the polygons that constitute it can be taken to be square. Which genus three square-tiled surfaces have a convex presentation?

(4) Using the Kenyon-Smillie invariant determine the Veech surfaces that have a convex presentation in genus three.