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Satyan L Devadoss* (satyan.devadoss@williams.edu). *Deformations of surfaces and convex polytopes.*

The moduli space of surfaces with marked points appears in open-closed string theory, particularly with respect to holomorphic curves with Lagrangian submanifolds. A combinatorial framework is presented to view the compactification of this space based on the pair-of-pants decomposition of the surface. We classify all such spaces that can be realized as convex polytopes, yielding a new polytope based on truncations of cubes, whose combinatorial and algebraic structures are related to generalizations of associahedra and multiplihedra. (Received August 18, 2011)