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Satyan L Devadoss* (satyan.devadoss@williams.edu). *Visibility and deformations of associahedra*. Preliminary report.

The associahedron is a convex polytope whose face poset is based on nonintersecting diagonals of a convex polygon. Given an arbitrary simple polygon P , we construct a polytopal complex analogous to the associahedron based on diagonalizations of P . We describe topological properties of this complex, and provide realizations based on secondary polytopes. Moreover, using the visibility graph, a deformation space of polygons is created which encapsulates substructures of the associahedron. (Received December 19, 2008)