

# Polyomino Tiling Graphs

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Consider a rectangular space randomly tiled with a given set of polyominoes. We create a graph from the arrangement as follows: following the perimeter of each tile, we place vertices at every  $90^\circ$  angle, and connect the vertices with edges which follow this perimeter. Considering the set of all possible tilings, we can determine the probabilistic properties of a randomly chosen graph from the set. Through the use of generating functions and other methods, we discuss the graph theoretic properties of selected tilings, and a general approach for considering such graphs.