

Description of the 11 non-redundant graphlet orbits (O0–O11) used in graphlet correlation analysis.

Orbit ID	Description	Graphlet size	Topological role
O0	Node in a single edge (degree-1 endpoint)	2 nodes	Terminal
O1	Node in a 3-node chain at one end	3 nodes	Terminal
O2	Middle node of a 3-node chain	3 nodes	Chain
O3	Node forming a triangle (3-cycle)	3 nodes	Cycle
O4	Endpoint in a 4-node path	4 nodes	Terminal
O5	Second node in a 4-node path	4 nodes	Chain
O6	Third node in a 4-node path	4 nodes	Chain
O7	Central node in a 3-star (hub with 3 leaves)	4 nodes	Hub
O8	Leaf node in a 3-star	4 nodes	Terminal
O9	Node in a 4-node cycle (square)	4 nodes	Cycle
O10	Node in a 4-node clique (fully connected)	4 nodes	Clique
O11	Node shared by two triangles (triangle overlap)	4 nodes	Cycle