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**Title:** On graphs preserved by edge local complementation

**Abstract:** Orbits of graphs under the operations local complementation (LC) and edge local complementation (ELC), the latter also known as pivoting, appear in several different contexts. These graph operations have applications in topics such as isotropic systems, circle graphs, rank-width, interlace polynomials, and quantum states for use in quantum computation. We introduce a new class of graphs, called ELC-preserved graphs. A graph is ELC-preserved if it has an ELC orbit of size one, up to isomorphism. Through an exhaustive search, we find all ELC-preserved graphs of order up to 12 and all ELC-preserved bipartite graphs of order up to 14. We provide four general recursive constructions for infinite families of ELC-preserved graphs, called star expansion, clique expansion, Hamming expansion, and Hamming clique expansion. We show that all known ELC-preserved graphs, obtained from our search, arise from these constructions. We also prove that certain pairs of ELC-preserved graphs are LC equivalent. Binary error-correcting codes can be represented as ELC orbits of bipartite graphs, and ELC has been used to improve the performance of iterative decoding algorithms. We introduce ELC-preserved codes as codes corresponding to ELC-preserved graphs, and describe the properties of ELC-preserved codes obtained from our constructions.