Equi-2-matchable Graphs

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Consider the following 2 player game. The players alternate choosing an edge in a graph. The only restriction is that at most 2 edges can be selected at any vertex. Which graphs have the property that the outcome of the game is the same regardless of how the game is played? For instance, a star would always have exactly 2 edges chosen. The situation in which at most one edge can be selected at any node and the outcome is always the same has been examined (such graphs are called equimatchable [Lesk, Plummer and Pulleyblank]).

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