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*On the coprimality graph*

A conjecture of Entringer states that the vertex set of every tree with  $n$  vertices can be labelled with  $1, \dots, n$  such that each pair of adjacent vertices get coprime labels. We prove this for all large  $n$  by considering the *coprimality graph*  $S_n$ , whose vertex set is  $\{1, \dots, n\}$  and where  $ij$  is an edge if and only if  $i$  and  $j$  are coprime. Then Entringer's conjecture says that every tree with  $n$  vertices is a subgraph of  $S_n$ . We also show that some more general classes of graphs also have the property that every member occurs as a spanning subgraph of  $S(n)$ .