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**Title:** Groups with a few nonabelian centralizers

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For a group $G$, let cent$(G)$ denote the set of centralizers of single elements of $G$ and nacent$(G)$ denote the set of all nonabelian centralizers belonging to cent$(G)$. We first characterize all finite groups $G$ with $|\text{nacent}(G)| = 2$. We denote by $\omega(G)$, the maximum possible size of a subset of pairwise noncommuting elements of a finite group $G$. In this article we find a necessary and sufficient condition for some finite groups $G$ satisfying $|\text{cent}(G)| = |\text{nacent }(G)| + \omega(G)$. In particular we show that this equality is valid for some simple groups.

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