Abstract. Let $G$ be a graph with $n$ vertices and $\rho(G)$ be the spectral radius of its adjacency matrix. Write $C_l$ for the cycle of order $l$ and let $g_l(n) = \max\{\rho(G) : |V(G)| = n, \text{neither } C_l \text{ nor } C_{l+1} \text{ is a subgraph of } G\}$. This paper obtains the exact value of $g_5(n)$ with the unique extremal graph.

Key words. Forbidden subgraph, Adjacency matrix, Spectral radius.

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