Mechanism of Electrochemical Oxidation of 1-Chloro-2,2,6,6-tetramethylpiperidine

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Abstract—In contrast to 2,2,6,6-tetramethylpiperidine and other aliphatic amines, at the electrochemical oxidation of 1-chloro-2,2,6,6-tetramethylpiperidine a sufficiently stable cation-radical is formed. Its formation is confirmed by the data of cyclic voltammetry and electron paramagnetic resonance. Further transformation of the cation-radical leads to the formation of 2,2,6,6-tetramethylpiperidin-1-oxyl.

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