

Electrooxidation of *p*-chloroaniline at gold electrodeInam-ul-Haque¹Department of Chemistry University of Engineering and
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Electrochemical oxidation of *p*-chloroaniline (1-5) in 0.1 M sodium perchlorate in pure acetonitrile was studied on gold surface using cyclic and normal pulse voltammetry. *p*-Chloroaniline exhibited a well-defined irreversible peak in acetonitrile containing sodium perchlorate at gold (0.0085 cm²) electrode. In cyclic voltammetry linear relationship was obtained between the anodic peak current and square root of scan rate. Table I summarizes results of scan rate dependence in cyclic voltammetry. Mechanistic interpretation of the voltammetric results will be described.

Table I: Cyclic voltammetric oxidation of 1.5 mM *p*-chloroaniline at gold electrode. Sweep rate dependence of anodic peak current, current function and half peak potential.

v V/s	$v^{1/2}$ $V^{1/2}s^{-1/2}$	$E_p^a - E_{p/2}^a$ mV	i_p^a μA	$i_p^a v^{-1/2}$ $\mu A V^{-1/2} s^{1/2}$
0.01	0.10	490	1.337	13.37
0.05	0.22	370	2.725	12.38
0.10	0.31	410	3.720	12.00
0.20	0.45	420	5.242	11.64
0.50	0.71	450	7.816	11.00
0.80	0.89	420	9.301	10.45
1.00	1.00	460	10.74	10.74
1.50	1.22	490	12.92	10.59
2.00	1.41	500	15.23	10.80

Electrolyte: 0.1 M sodium perchlorate in acetonitrile.

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