Electrochemical reduction of nitrotetralones

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The electrochemical reduction of three nitrotetralone derivatives by tast and differential pulse polarography and cyclic voltammetry in a wide pH range was studied. In aqueous media, the reduction of mono-and dinitrotetralone follows the general pattern of reduction of aromatic nitro compounds: the nitro group is reduced in a four-electron step to a hydroxylamine group. However, in mixed media this reduction differs from that of other nitrobenzenes, due to the fact that the formation of the nitroradical anion was not observed. The reduction of the acetoxy derivative was studied only at alkaline pH, because it suffered acid hydrolysis. The ionization pK of the protonatable groups were polarographically obtained.