Synthesis and electrochemical redox properties of arylated *p*-benzoquinones, naphthoquinones and alkylamidoalkyl-*p*-benzoquinones

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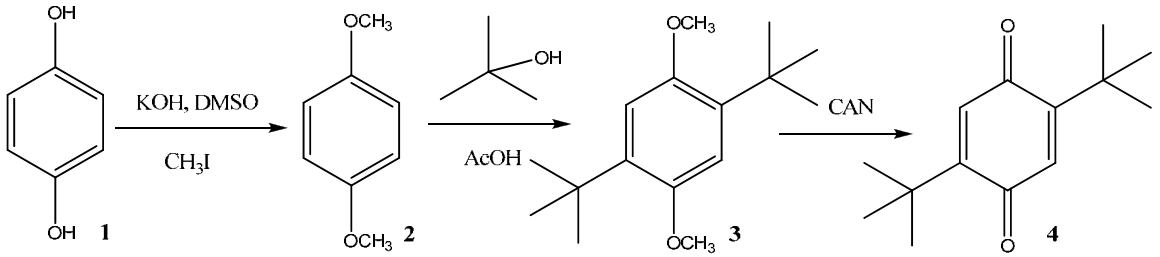
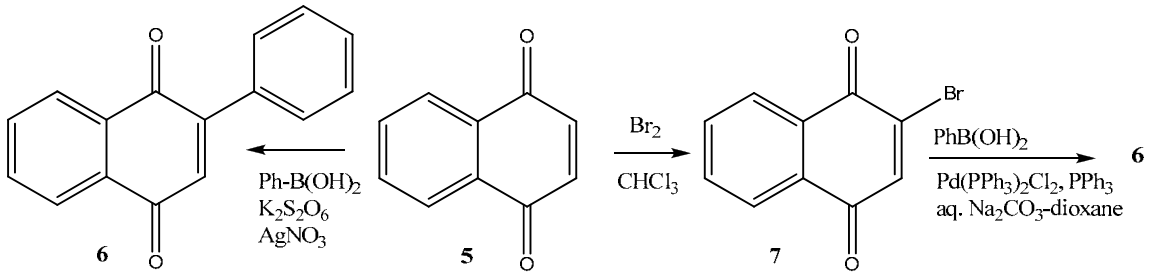
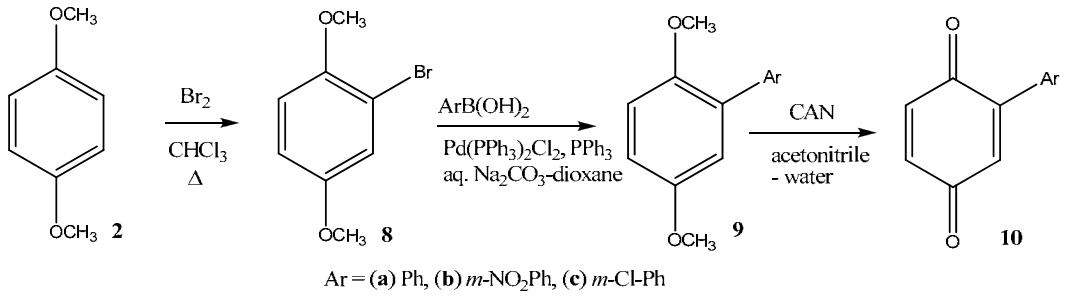


Scheme 1 Preparation of 2,5-*tert*-butyl-*p*-benzoquinone (**4**)

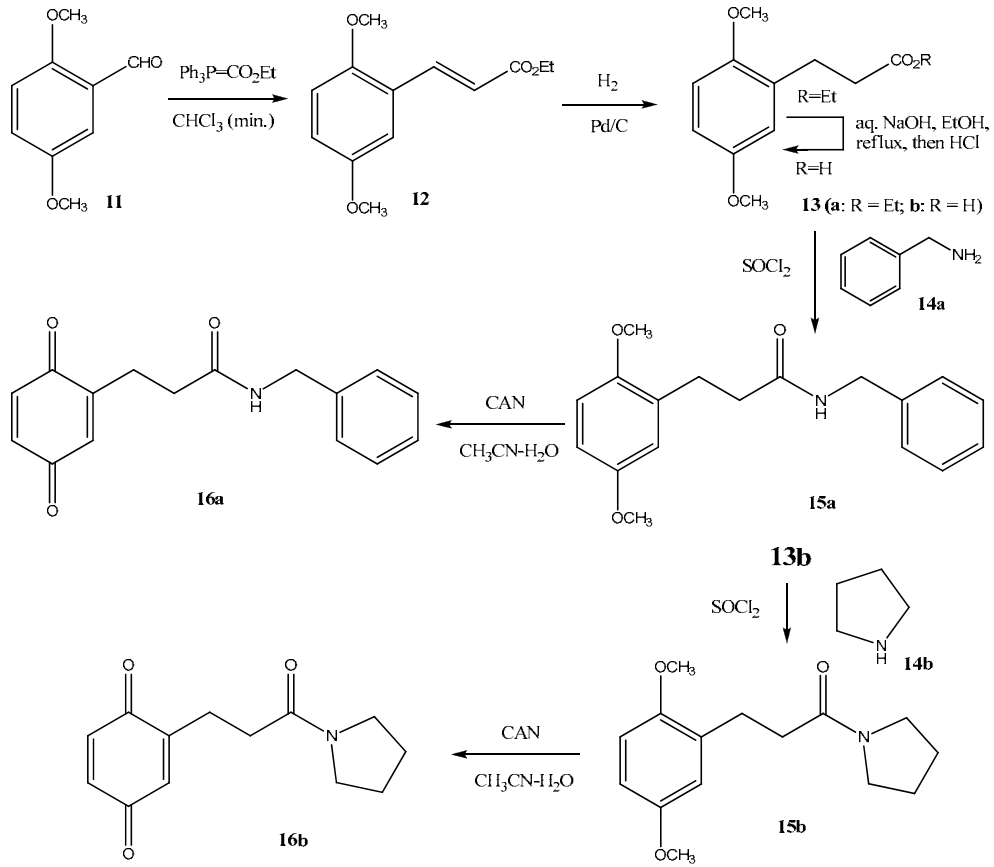


Scheme 2 Preparation of phenylnapthoquinone **6**



Ar = (**a**) Ph, (**b**) *m*-NO_2Ph, (**c**) *m*-Cl-Ph

Scheme 3 Preparation of 2-arylbenzo-*p*-quinones **10**



Scheme 4 Preparation of 2-amidoethyl-*p*-benzoquinones **16**

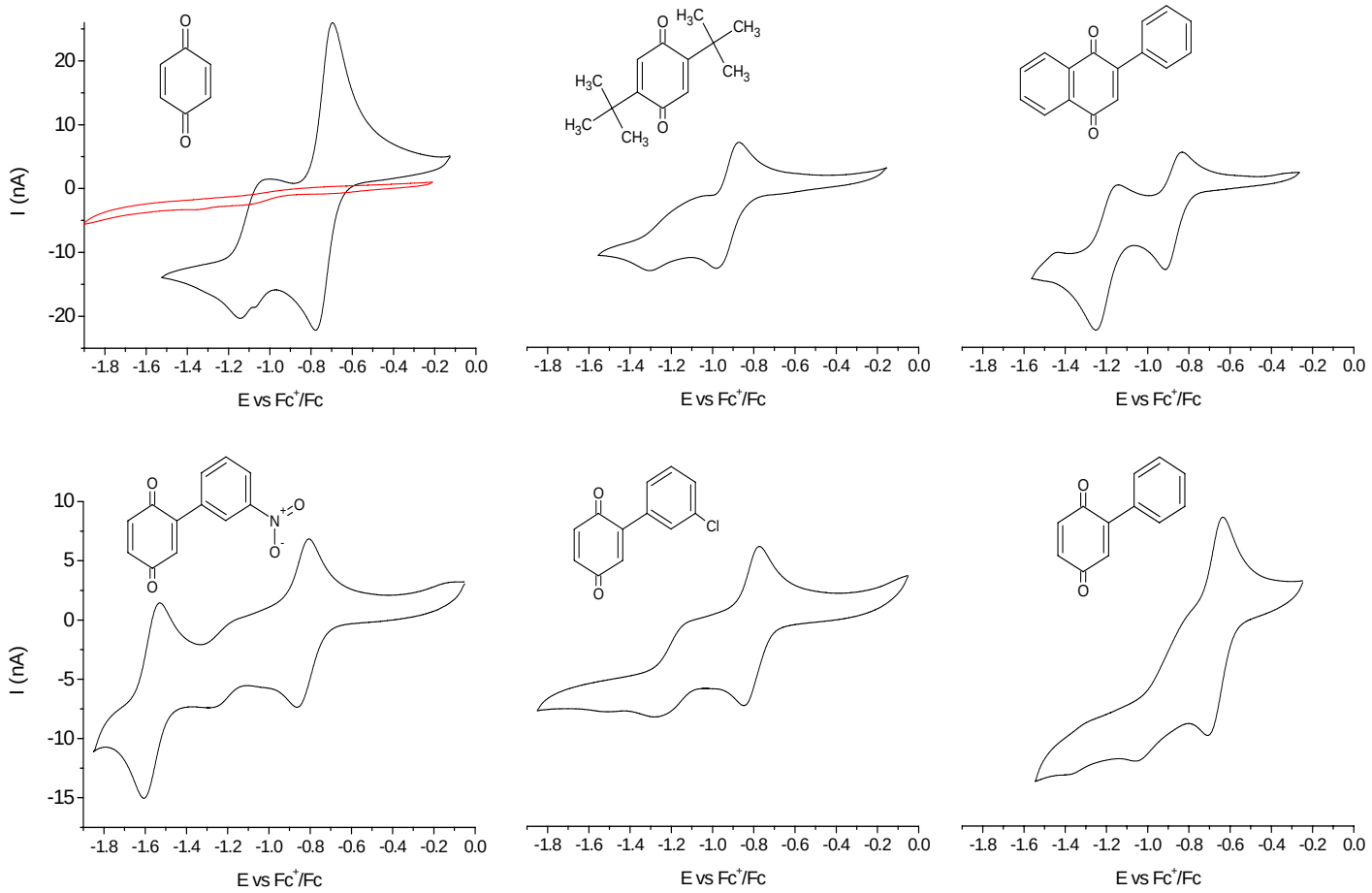


Figure 1. Cyclic voltammetry of 5 mM of benzoquinone (A), phenylbenzoquinone (B), 3-chlorophenylbenzoquinone (C), 3-nitrophenylbenzoquinone (D), 2,5-*tert*-Butyl-*p*-benzoquinone (E) and phenylnaphthoquinone (F) in the ionic liquid [bmim][BF_4]. 100 µm diameter Au microelectrode. Neat [bmim][BF_4] (red dashed line). Scan rate 100 mV/s. Third scan recorded.

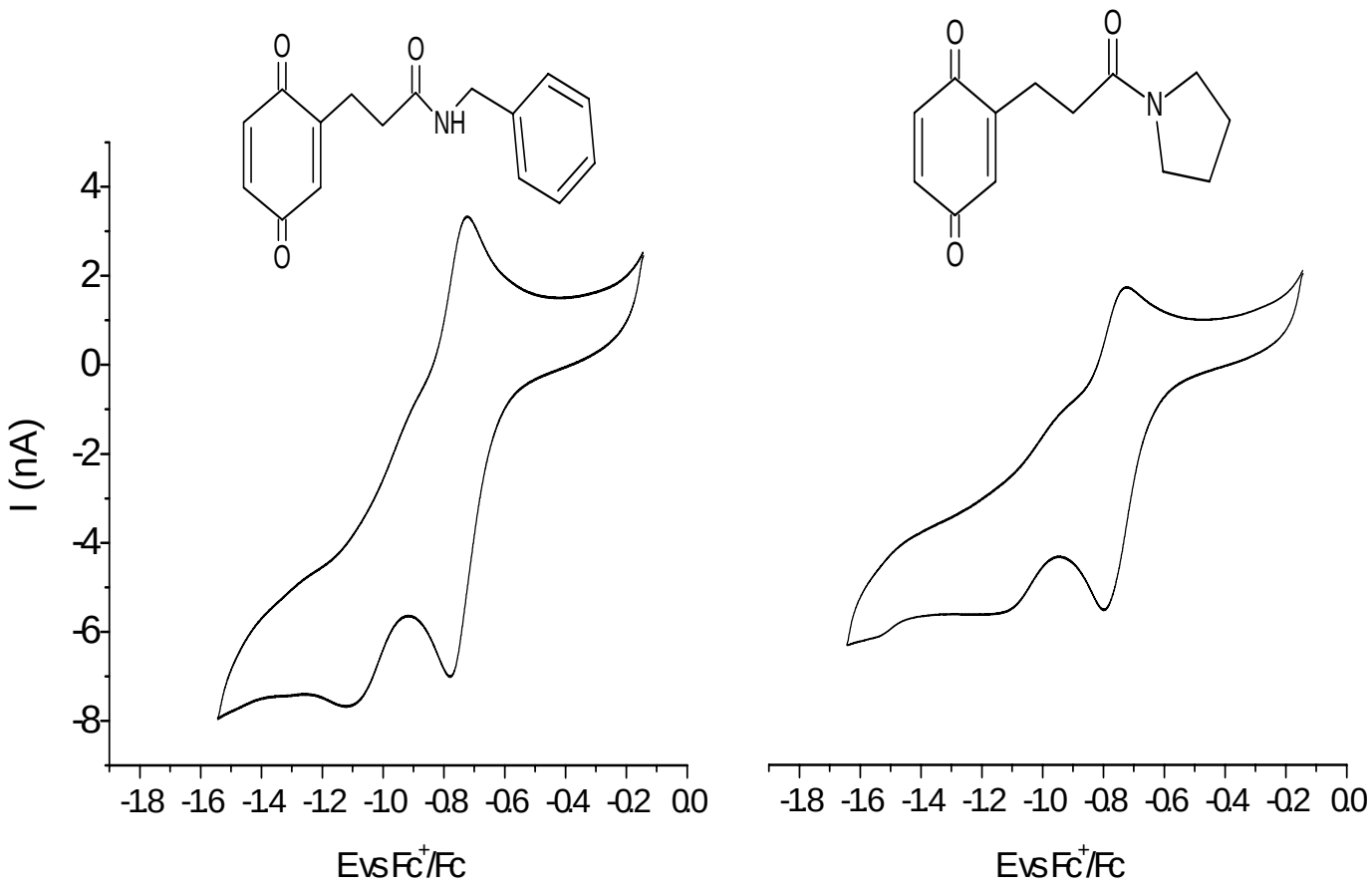


Figure 2. Cyclic voltammetry of 5 mM of *N*-Benzyl 3-(1,4-dimethoxyphen-2-yl)propionamide (**16a**) (A), and *N*-Benzyl carboxamidoethyl-*p*-benzoquinone (**16b**) (B) in the ionic liquid [bmim][BF_4]. 100 µm diameter Au microelectrode. Scan rate 100 mV/s. Third scan recorded.