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
Scheme 3 Preparation of 2-arylfenzo-γ-quinones 10

Scheme 4 Preparation of 2-amidoethyl-γ-quinones 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][BF₄]. 100 µm diameterAu microelectrode. Neat [bmim][BF₄] (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][BF₄]. 100 µm diameter Au microelectrode. Scan rate 100 mV/s. Third scan recorded.