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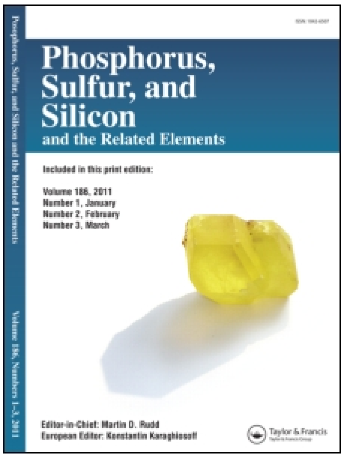

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New Results on the Preparation and Reactivity of Benzo[c]thiophenes

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NEW RESULTS ON THE PREPARATION AND REACTIVITY OF BENZO[C]THIOPHENES

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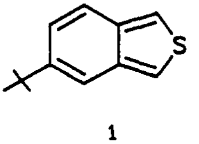
Abstract Preparation of benzo[c]thiophenes with particular substituents on the benzene or thiophene moiety is described and their cycloaddition, oxidation, and reduction reactions are discussed.

Benzo[c]thiophenes of different types have been prepared or generated and trapped *in-situ*. These include the labile 5-tert-butylbenzo[c]thiophene **1**, the nitrile **2**, higher [c]anellated (e.g **3**) and 4,7-ansa-benzo[c]thiophenes **4**.



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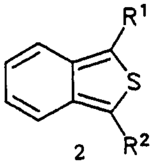

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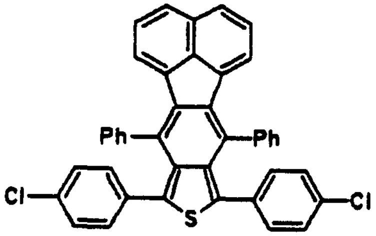
R^1 = CN, R^2 = $CONH_2$



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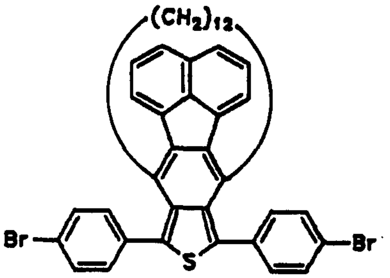

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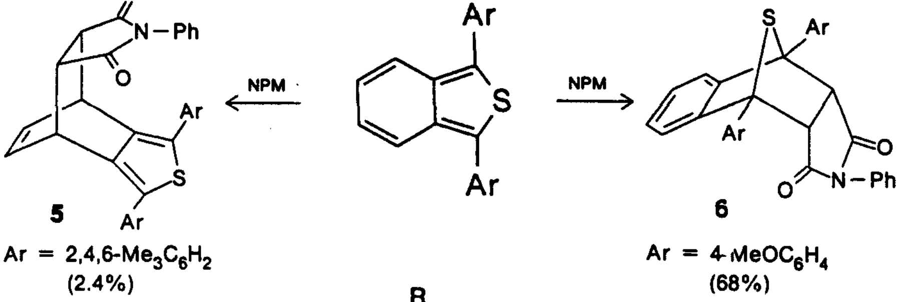
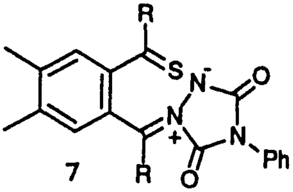
As expected, Diels-Alder reaction occurs at the heterocyclic 1,3-positions and the cycloadducts **5** are formed in most cases. However, the unusual 4,7-adduct **6** is obtained from 1,5-dimesitylbenzo[c]thiophene. On the other hand, the substitution product **7** instead of an adduct is formed with N-phenyl-1,2,4-triazoline-3,5-dione (NPT).





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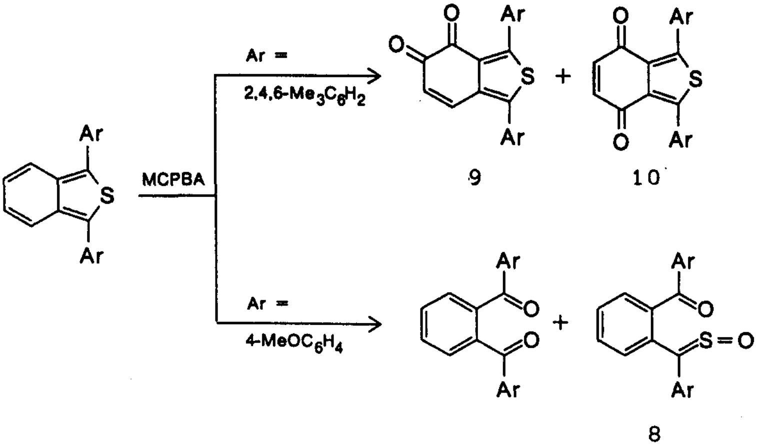
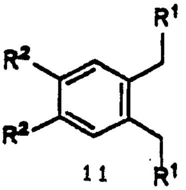
Oxidation normally yields 1,2-diacylarenes. But the sulfine **8** or quinones **9** and **10** are obtained with mcpa as oxidant.

Reductive elimination of sulfur under formation of 1,2-dialkylbenzenes **11** is achieved with Raney-Nickel. Again, as an exception, the tetrahydro derivative **12** is formed with preservation of the sulfur.





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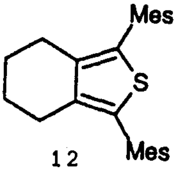

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