

Supporting Information

Toluene dioxygenase-catalysed *cis*-dihydroxylation of benzo[*b*]thiophenes and benzo[*b*]furans: synthesis of benzo[*b*]thiophene 2,3-oxide.

Derek R. Boyd,^{*a} Narain D. Sharma,^a Ian N. Brannigan,^a Timothy A. Evans,^a Simon A. Haughey,^a Brian T. McMurray,^a John F. Malone,^a Peter B. A. McIntyre,^a Paul J. Stevenson,^a and Christopher C. R. Allen^b

^a School of Chemistry and Chemical Engineering, and School of Biological Sciences, Queen's University of Belfast, Belfast

BT9 5AG, UK;

E-mail: dr.boyd@qub.ac.uk

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¹H NMR spectrum of **3a** (500MHz, CDCl₃, P. 3)

¹H NMR spectrum of **3c** (300MHz, CDCl₃, P. 4)

¹H NMR spectrum of **4e** (300MHz, CDCl₃, P. 5)

¹H NMR spectrum of **4g** (300MHz, CDCl₃, P. 6)

¹H NMR spectrum of **5a_{trans}** (400MHz, CDCl₃, P. 7)

¹³C NMR spectrum of **5a_{trans}** (100 MHz, CDCl₃, P.8)

¹H NMR spectrum of **5a_{cis}** (400MHz, CDCl₃, P. 9)

¹³C NMR spectrum of **5a_{cis}** (100 MHz, CDCl₃, P. 10)

¹H NMR spectrum of **5b_{cis}** (300MHz, CDCl₃, P. 11)

¹H NMR spectrum of **5d_{cis}/5d_{trans}** (300MHz, CDCl₃, P. 12)

¹H NMR spectrum of **5e_{cis}/5e_{trans}** (300MHz, CDCl₃, C₆D₆, D₂O, P. 13)

¹H NMR spectrum of **5f_{cis}** (300MHz, CDCl₃, P. 14)

¹H NMR spectrum of **10e** (300MHz, CDCl₃, P. 15)

¹H NMR spectrum of **10f** (500MHz, CDCl₃, P. 16)

¹³C NMR spectrum of **10f** (125 MHz, CDCl₃, P. 17)

¹H NMR spectrum of **11a** (300MHz, CDCl₃, P. 18)

¹H NMR spectrum of **12a** (400MHz, CDCl₃, P. 19)

¹³C NMR spectrum of **12a** (100 MHz, CDCl₃, P. 20)

¹H NMR spectrum of **22** (400MHz, CDCl₃, P. 21)

¹³C NMR spectrum of **22** (100 MHz, CDCl₃, P. 22)

¹H NMR spectrum of **23** (400MHz, CDCl₃, P. 23)

¹³C NMR spectrum of **23** (100 MHz, CDCl₃, P. 24)

¹H NMR spectrum of **21** (400MHz, CDCl₃, P. 25)

¹³C NMR spectrum of **21** (100 MHz, CDCl₃, P. 26)

ECD spectra of compounds **3a'** and **3b'** (MeCN, P. 27)

ECD spectra of compounds **3a'** and **3c'** (MeCN, P. 28)

ECD spectra of compounds **5a_{cis}/5a_{trans}** and **5d_{cis}/5d_{trans}** (MeCN, P. 29)





















































