# **Exploration of 9-bromo[7]helicene reactivity**

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# **Supplementary Information**

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**General Considerations** 

Spectra

**S**3

S2

#### **General Considerations**

<sup>1</sup>H and <sup>13</sup>C{<sup>1</sup>H} spectra were recorded using a 500 MHz instrument. Chemical shifts are reported in ppm ( $\delta$ ) relative to TMS, referenced to signal CDCl<sub>3</sub> ( $\delta$  = 7.26 ppm and  $\delta$  = 77.00 ppm respectively); CD<sub>2</sub>Cl<sub>2</sub> ( $\delta$  = 5.32 ppm and  $\delta$  = 54.00 ppm respectively); CD<sub>3</sub>OD ( $\delta$  = 3.31 ppm and  $\delta$  = 49.00 ppm respectively); DMSO-d<sub>6</sub> ( $\delta$  = 2.50, 3.33 ppm and  $\delta$  = 39.52 ppm respectively). Electron impact (EI) mass spectra were determined at an ionising voltage of 70 eV. TLC was performed on Silica gel 60 F254-coated aluminium sheets and compounds were visualized by UV light (254 nm). Column chromatography was performed on HPFC Biotage system with pre-packed flash silica gel columns. Microwave experiments were performed on Anton Paar Monowave 300 equipped with simultaneous temperature measurement with IR and fiberoptic sensor and Biotage Initiator Microwave Synthesizer. Commercially available reagent grade materials were used as received. THF and Et<sub>2</sub>O were freshly distilled from sodium/benzophenone under an atmosphere of nitrogen. 9-Bromo[7]helicene was purchased from Lach-ner s.r.o., Czech Republic.

#### **Spectroscopic Data**













132.0 131.5 131.0 130.5 130.0 129.5 129.0 128.5 128.0 127.5 127.0 126.5 126.0 125.5 125.0 124.5 124.0 123.5 123.0 f1 (ppm)









## 31P NMR (202 MHz, CDCl3)









9.0 8.9 8.8 8.7 8.6 8.5 8.4 8.3 8.2 8.1 8.0 7.9 7.8 7.7 7.6 7.5 7.4 7.3 7.2 7.1 7.0 6.9 6.8 6.7 6.6 6.5 6.4 6.3 6.2 6.1 f1 (ppm)





### 31P NMR (202 MHz, CDCl3)



39.0 38.5 38.0 37.5 37.0 36.5 36.0 35.5 35.0 34.5 34.0 33.5 33.0 32.5 32.0 31.5 31.0 30.5 30.0 29.5 29.0 28.5 f1 (ppm)





3.9 8.8 8.7 8.6 8.5 8.4 8.3 8.2 8.1 8.0 7.9 7.8 7.7 7.6 7.5 7.4 7.3 7.2 7.1 7.0 6.9 6.8 6.7 6.6 6.5 6.4 6.3 6.2 6.1 6.0 5.9 5.8 5.7 5.6 f1 (ppm)









<sup>13</sup>C NMR (125 MHz, CD<sub>3</sub>OD)





<sup>1</sup>H NMR (500 MHz, DM SO-d<sub>6</sub>)





<sup>13</sup>C NMR (125 MHz, DM SO-d<sub>6</sub>)





132.5 132.0 131.5 131.0 130.5 130.0 129.5 129.0 128.5 128.0 127.5 127.0 126.5 126.0 125.5 125.0 124.5 124.0 123.5 123.0 122.5 122.0 121.5 121.0 120.5 120.0 119.5 119.0 118.5 f1 (ppm)











CH<sub>3</sub> CH<sub>3</sub> H<sub>3</sub>C



13C NMR (125 MHz, CDCl3)





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132	131	130	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100
	f1 (ppm)																															

<sup>1</sup>H NMR (500 MHz, CDCl₃)



















