

Supporting Information

Direct Iodination of Alkanes

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Representative procedure: Iodocyclohexane **9a**: Iodine (5.08 g, 20 mmol) was dissolved in cyclohexane (220 mL, 2 mol) and sodium *tert*-butoxide (1.92 g, 20 mmol) was added. The suspension was stirred at 40 °C for 15 h. The mixture was washed with 0.2% aq. Na₂S₂O₃ (60 mL) and dried over MgSO₄. The solvent was removed under reduced pressure and the residue distilled to yield iodocyclohexane **9a** (3.55 g, 84%) as a colorless liquid. All reaction products were identified by GC/MS and NMR analysis and were found to be identical to published data.

Spectral data of the iodoalkanes prepared can be found in the following references:

1-Iodopentane **5a**

Dostovalova, V. I.; Velichko, F. K.; Fridlina, R. *Kh. Bull. Acad. Sci. USSR Div. Chem. Sci.* **1987**, 36, 701.

2-Iodopentane **5b**

Ejchart, A. *Org. Magn. Reson.* **1981**, 15, 22.

3-Iodopentane **5c**

Wiberg, K. B.; Pratt, W. E.; Bailey, W. F. *J. Org. Chem.* **1980**, 45, 4936.

1-Iodoheptane **6a**

Tiers, G. V. D. *Magn. Reson. Chem.* **1999**, 37, 609.

2-Iodoheptane **6b**

3-Iodoheptane **6c**

Ejchart, A. *Org. Magn. Reson.* **1981**, 15, 22.

1-Iodoheptane **7a**

Reddy, C. K.; Periasamy, M. *Tetrahedron* **1992**, 48, 8329.

2-Iodoheptane **7b**

3-Iodoheptane **7c**

Dostovalova, V. I.; Velichko, F. K.; Fridlina, R. *Kh. Bull. Acad. Sci. USSR Div. Chem. Sci.* **1987**, 36, 701.

Iodocyclopentane **8a**

Wiberg, K. B.; Pratt, W. E.; Bailey, W. F. *J. Org. Chem.* **1980**, 45, 4936.

Iodocyclohexane **9a**

Inoue, Y.; Fukunaga, T.; Hakushi, T. *J. Org. Chem.* **1983**, 48, 1732.

Wiberg, K. B.; Pratt, W. E.; Bailey, W. F. *J. Org. Chem.* **1980**, 45, 4936.

Iodocycloheptane **10a**

Joseph, R.; Pallan, S. P.; Sudalai, A.; Ravindranathan, T. *Tetrahedron Lett.* **1995**, 36, 609.

Benzyl iodide **11a**

Davies, S. G.; Smyth, D. G.; Chippindale, A. M. *J. Chem. Soc., Perkin Trans. 1* **1999**, 3089.