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(Z)-2-Bromo-5-phenyl-2-pentene

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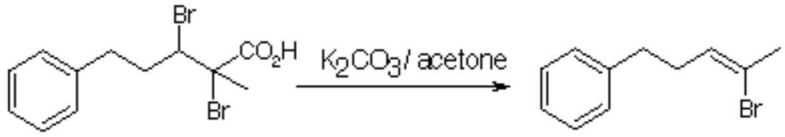

The general part of the experimental section [1] has been presented elsewhere. 2,3-Dibromo-2-methyl-5-phenyl-2-pentanoic acid (1.95 g, 5.6 mmol) was refluxed with potassium carbonate (1.93 g, 14.0 mmol) in acetone (50 ml) for 3 hours. The solvent was removed by distillation and the residue was partitioned between ether (100 ml) and water (100 ml). The ether extract was washed with brine (50 ml), dried (Na_2SO_4), filtered and evaporated under reduced pressure. The crude product was Kugelrohr distilled to yield (*Z*)-2-bromo-5-phenyl-2-pentene (1.10 g, 88%) as a colourless oil.

B.p. 91°/0.8 mmHg

UV (ethanol) 260 (259), 255 (378) nm.

IR ($CDCl_3$) 3063, 3027(s), 2919(s), 2857, 1644, 1603, 1496(s), 1453, 1427, 1367, 1283, 1167, 1096, 1031, 746, 698 cm^{-1}.

^{1}H-NMR (400 MHz, $CDCl_3$) 2.25 (3H, dt, *J* 1.4, 1.3 Hz, CH_3), 2.45 (2H, m, CH_2), 2.69 (2H, bt, *J* 7.9 Hz, Ph-CH_2), 5.62 (1H, tq, *J* 6.9, 1.4 Hz, =CH), 7.14-7.31 (5H, m, ArH). Stereochemistry confirmed by n.O.e. difference spectroscopy. Irradiation at 5.62 produced a 6% n.O.e. at 2.25 (also 3% at 2.45, 3% at 2.69). Irradiation at 2.25 produced an 2% n.O.e. at 5.62.

^{13}C-NMR (15 MHz, $CDCl_3$) 28.70 (CH_3), 33.11, 34.54 (CH_2), 123.0 (quat, C2), 125.9 (ArCH), 127.9 (=CH), 128.0 (2xArCH), 141.4 (quat, C1'.

EI-MS 226(M^++2, 7%), 224(M^+, 7), 146(37), 145(72), 135(26), 133(27), 92(56), 91(100), 77(21), 65(52), 63(22).

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References and Notes

1. Moloney, M.G.; Pinhey, J.T.; Stoermer, M.J. "Vinyl Cation Formation by Decomposition of Vinyl-lead Triacetates. The reactions of Vinylmercury and Vinyltin Compounds with Lead Tetraacetate." *J. Chem. Soc. Perkin Trans. 1* **1990**, *10*, 2645.

Sample Availability: No sample available.