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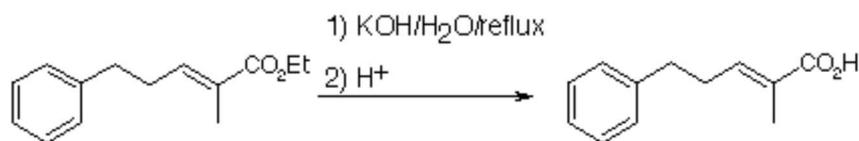
(E)-2-Methyl-5-phenyl-2-pentenoic Acid

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The general part of the experimental section [1] has been presented elsewhere. Ethyl (*E*)-2-methyl-5-phenyl-2-pentenoate (2.345 g, 10.7 mmol) was refluxed with potassium hydroxide (1.55 g, 27.6 mmol) in a mixture of water (80 ml) and methanol (10 ml) for 3 hours, cooled and washed with ether (50 ml). The aqueous phase was acidified with concentrated hydrochloric acid to below pH 1. The mixture was extracted with ether (3x50 ml). The combined ether extracts were washed with brine (20 ml), dried (Na₂SO₄), filtered and evaporated under reduced pressure. (*E*)-2-Methyl-5-phenyl-2-pentenoic acid (1.71 g, 84%) was obtained as a viscous pale yellow oil that crystallized on standing at room temperature overnight.

M.p. 36-7°

Anal. calc. for C₁₂H₁₄O₂ (190.24): C 75.8, H 7.4; found: C 75.5, H 7.6.

IR (CDCl₃) 3500-2800(bs, OH), 3027, 2930(s), 2670(s), 1685 (s, C=O), 1642, 1422, 1286(s), 933, 739, 698 cm⁻¹.

¹H-NMR (90 MHz, CDCl₃) 1.75 (3H, bs, CH₃), 2.23-2.90 (4H, m, 2xCH₂), 6.87 (1H, tq, *J* 7.5, 1.5 Hz, =CH), 6.70-7.37 (5H, m, ArH), 11.50 (1H, bs, COOH).

¹³C-NMR (15 MHz, CDCl₃) 11.69 (CH₃), 30.52, 34.41 (CH₂), 126.0 (ArCH), 127.8 (quat, C2), 128.2, 128.3 (ArCH), 140.9 (quat, C1'), 143.5 (=CH); 173.5 (quat, C1).

EI-MS 190(M⁺, 10%), 91(100), 44(89).

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References and Notes

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

Sample Availability: No sample available.

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