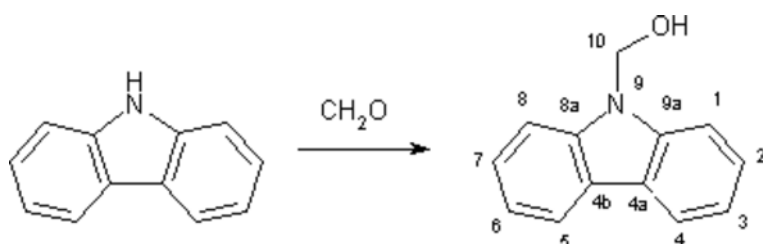


Carbazol-9-yl-methanol

Milata Viktor^a, Kada Rudolf^a, Lokaj Ján^b

^aDepartment of Organic Chemistry and ^bCentral Laboratory of Chemical Technique, Faculty of Chemical Technology, Slovak University of Technology, Radlinského 9, SK-812 37 Bratislava, Slovak Republic
Tel.: 00421-7-368 560, 395 410, Fax: 00421-7-368 560, E-mail: vmilata@cvtstu.stuba.sk

Received: 22 September 2003 / Accepted: 1 October 2003 / Published: 24 February 2004



9H-Carbazole derivatives are known to have fluorescent properties and therefore they have exploitation in analytical chemistry, especially in bioanalytical chemistry. Carbazol-9-yl-methanol is a known agent in fluorescent analysis used with this aim.

Preparation of carbazol-9-yl-methanol is described only in patent literature [1] and in a journal difficult of access [2]. Title compound is stable only in alkaline alcoholic solutions and in acidic media turns to N,N'-biscarbazol-9-yl-methane [3].

To a mixture of carbazole (16,7 g, 0,1 mol) in ethanol (60 mL) is added potassium carbonate (10 g, 60 mmol) and the mixture is boiled under reflux for 5 min. with magnetic stirring. Then methanal (10 mL, 35 % aqueous solution, 0.1 mol) is added and heating is continued to dissolve all components. After next 10 min. the resulting reaction mixture is cooled, separated product is filtered off, dried and recrystallized from toluene. Yield 10.8 g (91.4 %).

M.p. 128-129 deg.C (toluene), 127-128 deg. C (EtOH) [1]; 128-129 deg. C (EtOH) [2].

TLC(CHCl₃/EtOH=9:1): R_f 0.57.

¹H NMR (DMSO-d₆, 300 MHz): 1.91t (1H, OH), 5.77d (2H,CH₂), 7.22t (1H,H-2), 7.45t (1H,H-3), 7.67d (1H,H-1, ³J=8.4 Hz), 8.14d (1H,H-4, ³J=7,8 Hz) ppm.

¹³C NMR (DMSO-d₆, 75 MHz): 65.33 (CH₂, ¹J=55.11 Hz), 109.93 (C-1,C-8, ¹J=163.17 Hz, ²J=9.06 Hz), 119.41 (C-3,C-6, ¹J=161.16 Hz, ²J=8.06 Hz), 120.24 (C-4,C-5, ¹J=160.15 Hz, ²J=8.06 Hz), 122.62 (C-4a, C-4b, ²J=5.8 Hz), 125.72 (C-2,C-7, ¹J=161.15 Hz, ²J=7.05 Hz), 139.78 (C-8a, C-9a, ²J=4.3 Hz) ppm.

Anal. calc. for C₁₃H₁₁NO (197.24): C 79.17, H 5.62, N 7.10; found: C 79.01, H 5.66, N 7.24 %.

Acknowledgements:

The authors would like to thank Slovak Grant Agency (financial support No. 1/9254/02 and 1/0058/03).

References and Notes

1. Lange M.: Ger. 256757 (1912), Chem. Abstr. **1913**, 7, 2454.
2. Lopatinskii V.P., Sirotkina E.E., Metody Poluch. Khim. Reakt. Prep. **1964**, 88; Chem. Abstr. **1966**, 64, 15823h.
3. Traven V.F., Smrček V.A., Stepanov B.I., Khim. Geterotsikl. Soedin. **1967**, 3, 568.

© 2004 [MDPI](http://www.mdpi.org). All rights reserved.