

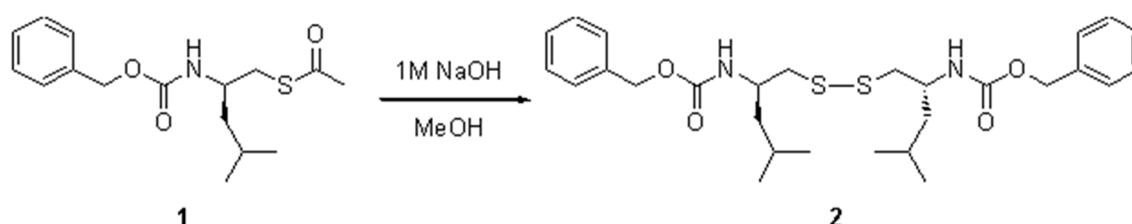
Short Note

bis[(*N*-Benzyloxycarbonyl)-(2*R*)-amino-4-methylpentyl]disulfide

Jean-Marc Poudrel and Peter Karuso *

Department of Chemistry, Macquarie University, NSW 2109 Sydney, Australia.
Ph. +61-2-9850-8290, fax +61-2-9850-8313, E-mail: pkaruso@alchemist.chem.mq.edu.au,
www.chem.mq.edu.au/~vislab

Received: 4 July 2000 / Accepted: 5 August 2000 / Published: 25 December 2000



Disulfides that mimic the pentapeptide Phe-*D*-Leu-Gly-*D*-Leu-Phe can be obtained in high yield from the corresponding thioacetate *via* the intermediate mercaptan by prolonged standing in alkali [1]. To a stirred solution of **1** (0.370 g, 1.20 mmol) in methanol (5 mL) was added dropwise a 1M solution of sodium methanoate in methanol (1.2 mL). The reaction mixture was stirred overnight and neutralised by dropwise addition of a 1M solution of HCl (1.2 mL). Methanol was evaporated under reduced pressure and the residue taken up with ethyl acetate (50 mL), washed with water (2 x 10 mL) and dried over anhydrous Na₂SO₄. Removal of the solvent under reduced pressure afforded the title compound as a white solid in 95% yield (0.303 g, 0.570 mmol).

M.p. 86–87°C.

[α]_D²⁰ = + 48.0° (c 2.92, CH₂Cl₂)

TLC (hexane/ethyl acetate 80:20): R_f 0.71.

IR (KBr, cm⁻¹): 3355 (br, s, NH), 1695 (s, C=O), 1535 (s, C=C), 1010 (m, C-O).

UV (CH₃CN, ε): λ=197 (21350), 204 (19700), 257 (980).

¹H-NMR (400 MHz, CDCl₃): 7.30 (m, 10H, Ph), 5.18 (d, J=8.4 Hz, 2H, NH), 3.96 (m, 2H, Ha), 2.96 (dd, J=14 Hz and J=5.2 Hz, 2H, CHS), 2.71 (dd, J=13.6 Hz and J=5.6 Hz, 2H, CHS), 1.65 (m, 2H, Hg), 1.19 (m, 4H, Hb), 0.90 (d, J=6.4 Hz, 12H, Hd).

¹³C-NMR (100 MHz, CDCl₃): 156.0 (C=O), 136.5 (quat. arom.), 128.4 and 128.0 (CH arom.), 66.5 (CH₂-Ph), 49.0 (CH₂S), 45.4 (Ca), 42.4 (Cb), 24.8 (Cg), 23.0 and 21.0 (Cd).

ES-MS (m/z): 533 (M+H, 100%), 425 (29%), 266 (77%), 234 (55%), 91 (28%).

Anal. calc. for (C₂₈H₄₀O₄N₂S₂): C 63.12, H 7.57, N 5.26; found: C 63.10, H 7.73, N 5.04.

Acknowledgments: The authors gratefully acknowledge financial support from the French and Australian governments and from Macquarie University.

References

- Corelli, F.; Crescenza, A.; Dei, D.; Taddei, M.; Botta, M. *Tetrahedron Asymmetry* **1994**, *5*, 1469–1472.

Sample availability : Available from the authors and from MDPI.

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