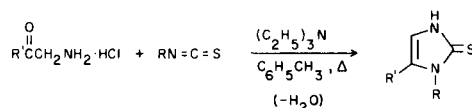


Table I

N, 5-Disubstituted-4-imidazoline-2-thiones



Compound	R	R'	M.p. °C	Yield %	Anal. Calcd.: Found:
3a	CH ₃	(CH ₃) ₃ C	184-186	31 (a)	C, 56.4; H, 8.3; N, 16.5; S, 18.8 C, 56.4; H, 8.6; N, 16.3; S, 19.2
3b	CH ₃	(CH ₃) ₂ CH	127-129	56 (a)	C, 53.8; H, 7.7; N, 17.9; S, 20.5 C, 54.0; H, 8.0; N, 17.8; S, 20.4
3c	CH ₃ OCH ₂ CH ₂	(CH ₃) ₃ C	93-96	57 (a)	C, 56.1; H, 8.5; N, 13.1; S, 15.0 C, 55.7; H, 8.2; N, 12.9; S, 15.0
3d	CH ₃ OCH ₂ CH ₂	(CH ₃) ₂ CH	119-122	58 (a)	C, 54.0; H, 8.1; N, 14.0; S, 16.0 C, 54.0; H, 8.2; N, 14.1; S, 16.1
3e	C ₆ H ₅ CH ₂	(CH ₃) ₃ C	195-198	30 (b)	C, 68.3; H, 7.4; N, 11.4; S, 13.0 C, 68.1; H, 7.4; N, 11.1; S, 13.0
3f	C ₆ H ₅ CH ₂	(CH ₃) ₂ CH	172-174	36 (a)	C, 67.2; H, 6.9; N, 12.1; S, 13.8 C, 66.8; H, 7.3; N, 11.9; S, 14.2
3g	Cyclohexyl	(CH ₃) ₂ CH	197-199	18 (a)	C, 64.2; H, 9.0; N, 12.5; S, 14.3 C, 63.9; H, 9.0; N, 12.4; S, 14.7
3h	CH ₂ =CHCH ₂	(CH ₃) ₃ C	158-159	43 (b)	C, 61.2; H, 8.2; N, 14.3; S, 16.4 C, 61.2; H, 8.1; N, 14.2; S, 16.8
3i	CH ₂ =CHCH ₂	(CH ₃) ₂ CH	109-110	36 (b)	C, 59.3; H, 7.7; N, 15.4; S, 17.6 C, 58.9; H, 7.4; N, 15.3; S, 17.6
3j	CH ₃ SCH ₂ CH ₂ CH ₂	(CH ₃) ₃ C	121-122	28 (b)	C, 54.1; H, 8.2; N, 11.5 C, 54.1; H, 8.6; N, 11.6
3k	CH ₃ OCH ₂ CH ₂ CH ₂	(CH ₃) ₃ C	125	70 (b)	C, 57.9; H, 8.8; N, 12.3 C, 57.9; H, 9.1; N, 12.2

(a) After one or more crystallizations from ethyl acetate. (b) After one or more crystallizations from ethyl acetate/*n*-pentane.

A stirred toluene-mixture (60 ml.) of 1-amino-3,3-dimethyl-2-butanone hydrochloride (**3**) (1, R' = (CH₃)₃C) (5.0 g., 0.037 mole), 2-methoxyethyl isothiocyanate (4.3 g., 0.037 mole) and triethylamine (3.7 g., 0.037 mole) was refluxed for 24 hours. The water that was produced during the cyclization was collected by a Dean-Stark trap. Solvent was removed under reduced pressure and the semisolid residue was partitioned between dichloromethane and distilled water. The dried (magnesium sulfate) dichloromethane extract was passed through 50 g. of Florisil in a chromatographic column. The eluted compound was crystallized from ethyl acetate to give 4.5 g. (57%) of colorless crystals, m.p. 93-96°. The mass spectrum showed the parent peak at *M/e* 214 (Calcd. 214).

Anal. Calcd. for C₁₀H₁₈N₂OS: C, 56.1; H, 8.5; N, 13.1; S, 15.0. Found: C, 55.7; H, 8.2; N, 12.9; S, 15.0.

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members measured the nmr spectra. C. W. Brown and her colleagues performed the elemental analyses.

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