

## New bis-tridentate Nitrogen Ligand : N,N,N',N'-tetra-(3-carbomethoxy-5-methylpyrazol-1-ylmethyl)*p*-phenylenediamine

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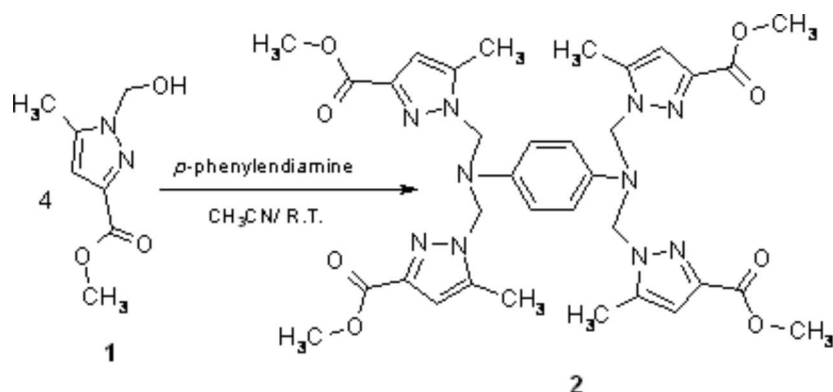
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The product **2** was prepared by the addition of *p*-phenylenediamine ( $\text{NH}_2\text{C}_6\text{H}_4\text{NH}_2$ ) to **1** [1] according to the reported procedure [2]. To a solution of **1** (3.4 g, 20 mmol) in acetonitrile (45 ml) was added *p*-phenylenediamine (0.54 g, 5 mmol) and the mixture was stirred. The stirring was continued at room temperature for a week. The residue was precipitated by addition of cold water, purified and dried by hexane and under vacuum, to afford 2.63 g (74% yield) **2** as a white solid.

Melting Point: 197 °C.

IR (KBr,  $\text{cm}^{-1}$ ): 3140 (=CH), 2990 (CH), 1730 (C=O), 1540 (C=C), 1480 (-C=N), 1450, 1410.

<sup>1</sup>H-NMR (400 MHz,  $\text{CDCl}_3$ ):  $\delta$ = 7.25 (s, 4H, Ph); 6.5 (s, 4H, Pyrazol); 5.6 (s, 8H, N- $\text{CH}_2$ -N); 4 (s, 12H, O- $\text{CH}_3$ ); 2.2 (s, 12H,  $\text{CH}_3$ ).

MS ( $m/z$ ): 739 [ $\text{M} + \text{Na}^+$ ]; 716 [ $\text{M}$ ]<sup>+</sup>; 613; 585; 460.

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### References:

1. Dvoretzky, I.; Richter, G.H., *J.Org.Chem.*, **1950**, 15, 1285.
2. Sheu, S-C; Tien, M-J.; Cheng, M-C.; Ho, T-I.; Peng, S-M. And Lin, Y-C., *J. Chem. Soc. Dalton Trans*, 1995, 3503-3510.

*Sample Availability:* Available from the authors and MDPI.

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