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Contents

Figure Captions

Figure 1. LFP of **2** in CH_3CN containing $HNEt_2$. The transient absorption spectrum was taken 1.4 μs after the laser pulse over a 200 ns window at ambient temperature.

Figure 2.. LFP of **2** in CH_3OH. The transient absorption spectrum was taken 1.4 μs after the laser pulse over a 200 ns window at ambient temperature.

Figure 3.. LFP of **2** in CH_2Cl_2 at -32^{0}C. The transient absorption spectrum was recorded 1.4 μs after the laser pulse over a 600 ns window at -32^{0}C

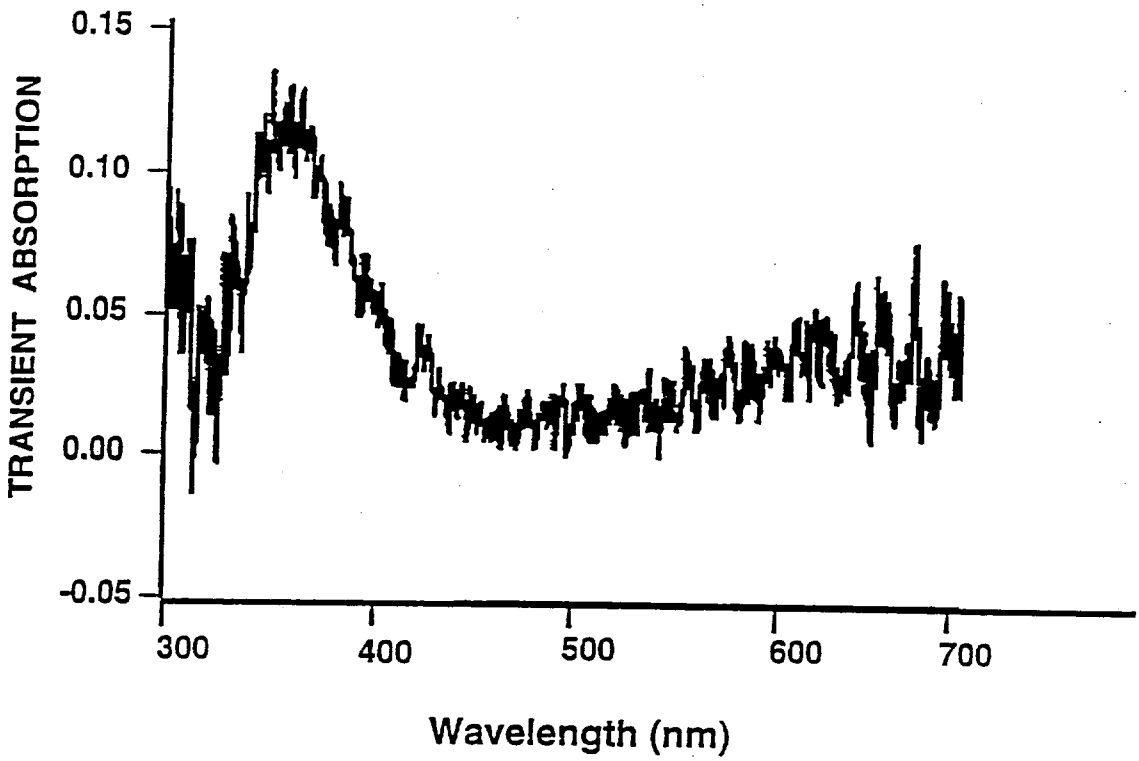
Figure 4. A double reciprocal treatment of the ylide produced by LFP of **2** in 1:1 CH_2Cl_2/C_6H_{12} at ambient temperature.

Figure 5. Thin layer chromatography (TLC) of TcO_4^{-1} before complexation in (a) acetone (b) ethyl acetate and (c) saline.

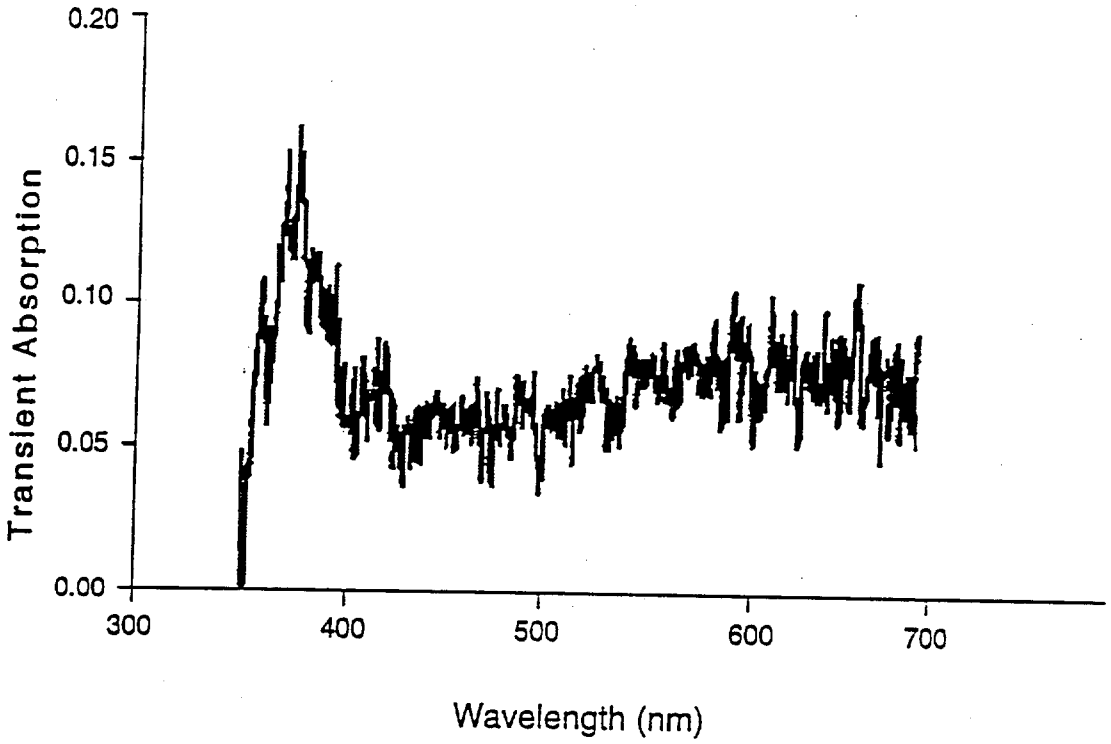
Figure 6. TLC of ^{99m}Tc-complex of **12** in (a) acetone and (b) saline.

Figure 7. Electrophoresis diagram of TcO_4^{-1} and ^{99m}Tc-complex of **12** .

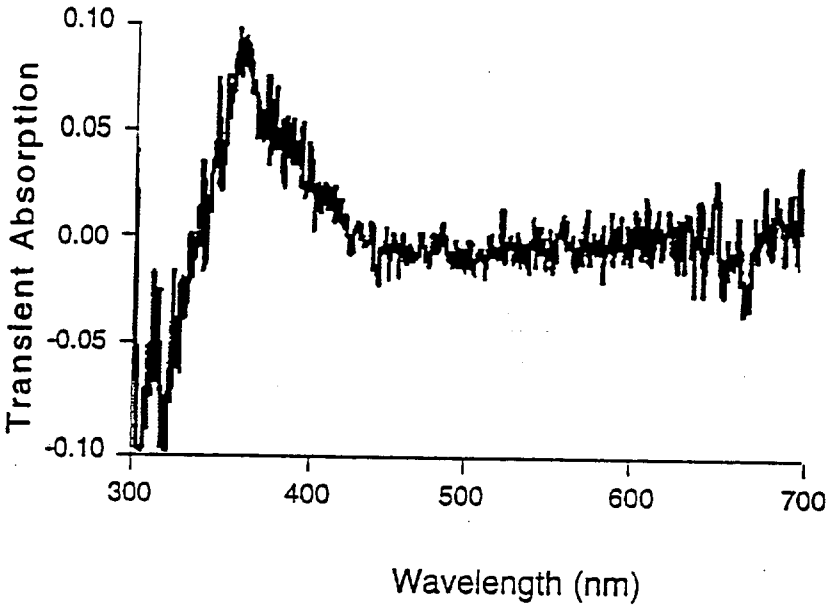
A solution of ligand **12** in methanol (1 mg/mL) was slowly added to 0.1 mL of 0.9% aqueous saline containing $10mC_i$ (370 MBq) of TcO_4^- which was obtained from a commercial $^{99}Mo/^{99m}Tc$ radionuclide generator (Mallinckrodt Nuclear). The mixture was added with 2 mL of 0.1 N HCl and heated at 80^0C for 30 to 45 Minutes. The complex yield of Tc-chelate was determined periodically using paper chromatography and instant thin layer chromatography-silica gel (ITLC-SG) using acetone and saline as eluting solvents. Technetium complex moves in acetone to top, while in saline it stays at the bottom (Fig. **6**). This chromatographic behavior is in contrast with the starting material TcO_4^{-1} which moves in saline to top. The radiochemical purity (RCP) was further enhanced by extracting the complex into $CHCl_3$ (to remove the unreacted pertechnetate) repeatedly and checked its chromatographic behavior for purity.



Pandurangi et. al; Fig. 1. Sup



Pandurangi et. al; Fig. 2. Supp.



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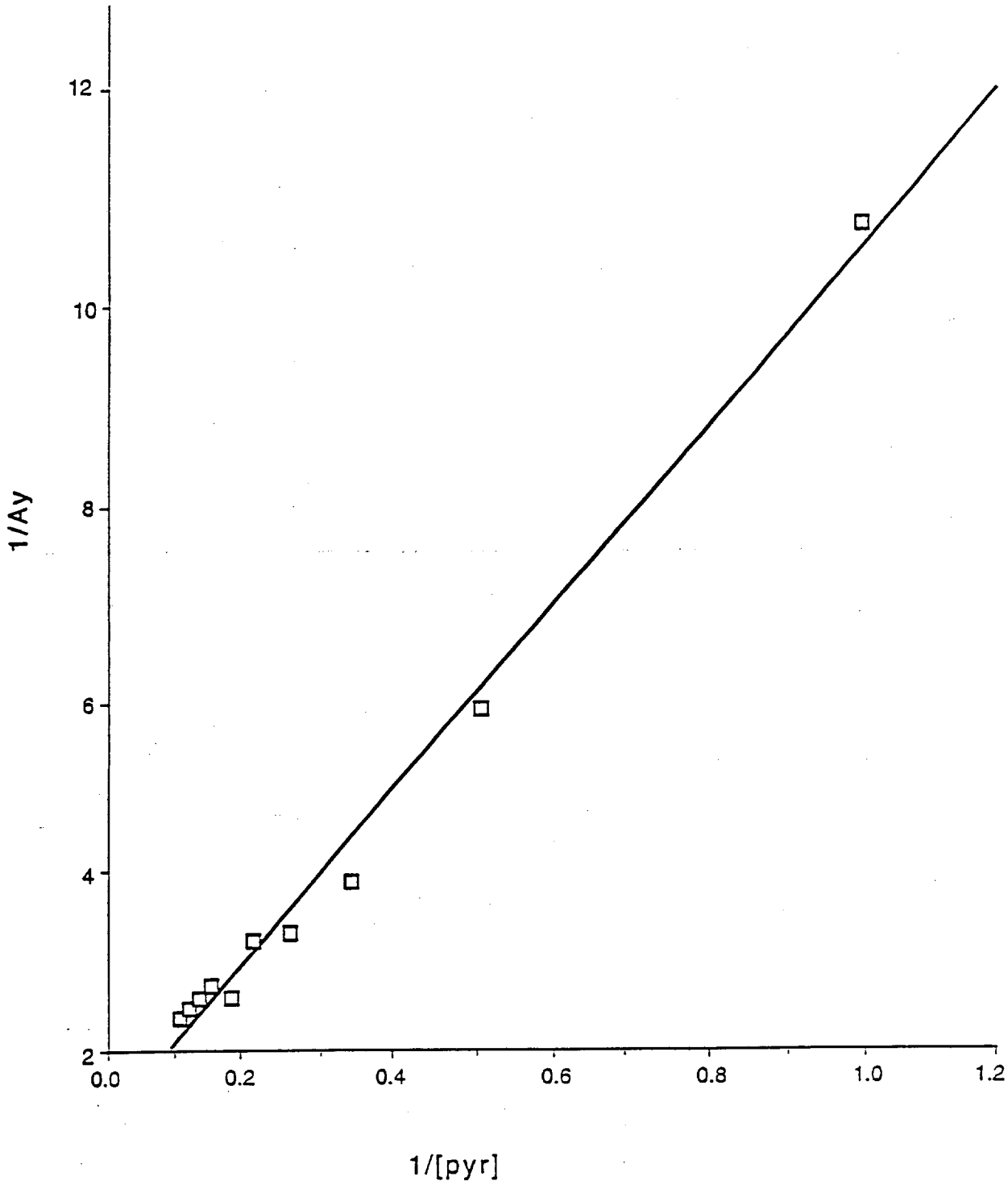

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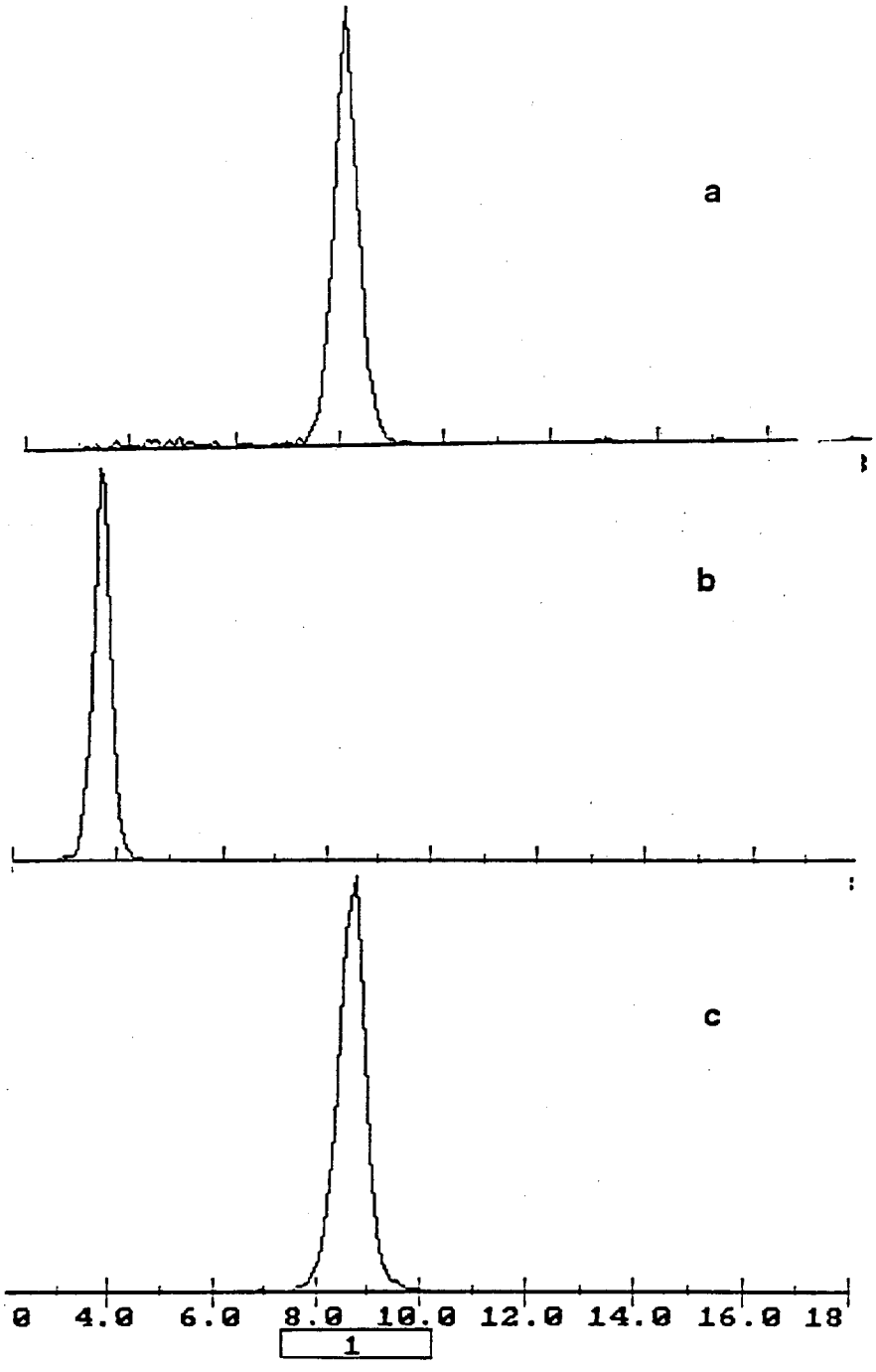

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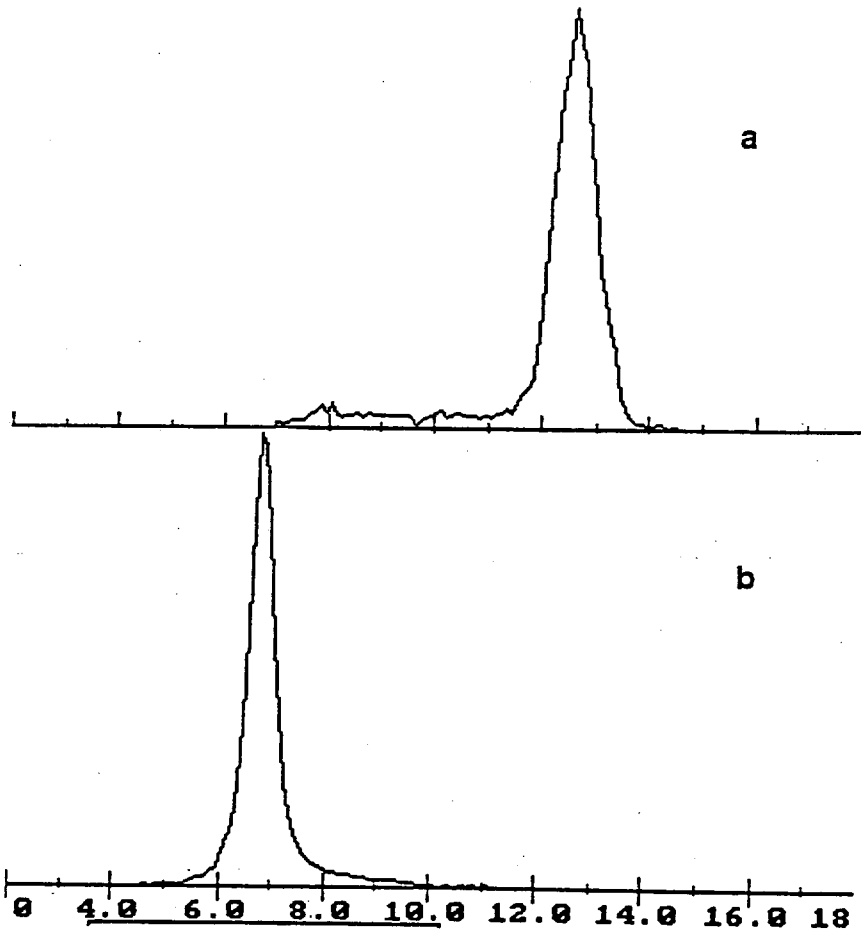

Pandurangi et.al; Fig. 6, Supp.