

Supporting Information

Figures 1S – 6S. Detailed IR spectra of argon matrices at 10 K containing *m*-benzyne generated from three different precursors. The Figures show the range 700 – 500 cm⁻¹ (Figure 1S), 900 – 700 cm⁻¹ (Figure 2S), 1100 – 900 cm⁻¹ (Figure 3S), 1300 – 1100 cm⁻¹ (Figure 4S), 1500 – 1300 cm⁻¹ (Figure 5S), 1650 – 1500 cm⁻¹ (Figure 6S). a) Difference IR spectrum before and after 305 nm irradiation of matrix-isolated **5**. Bands formed during photolysis are pointing upwards. b) IR spectrum of the products produced by FVP of **8** at 600°C with subsequent trapping of the products in argon at 10 K. c) Difference spectrum of the FVP products of **7** before and after annealing the matrix at 40 K. Bands pointing downwards decrease in intensity upon annealing, bands pointing upwards increase in intensity.

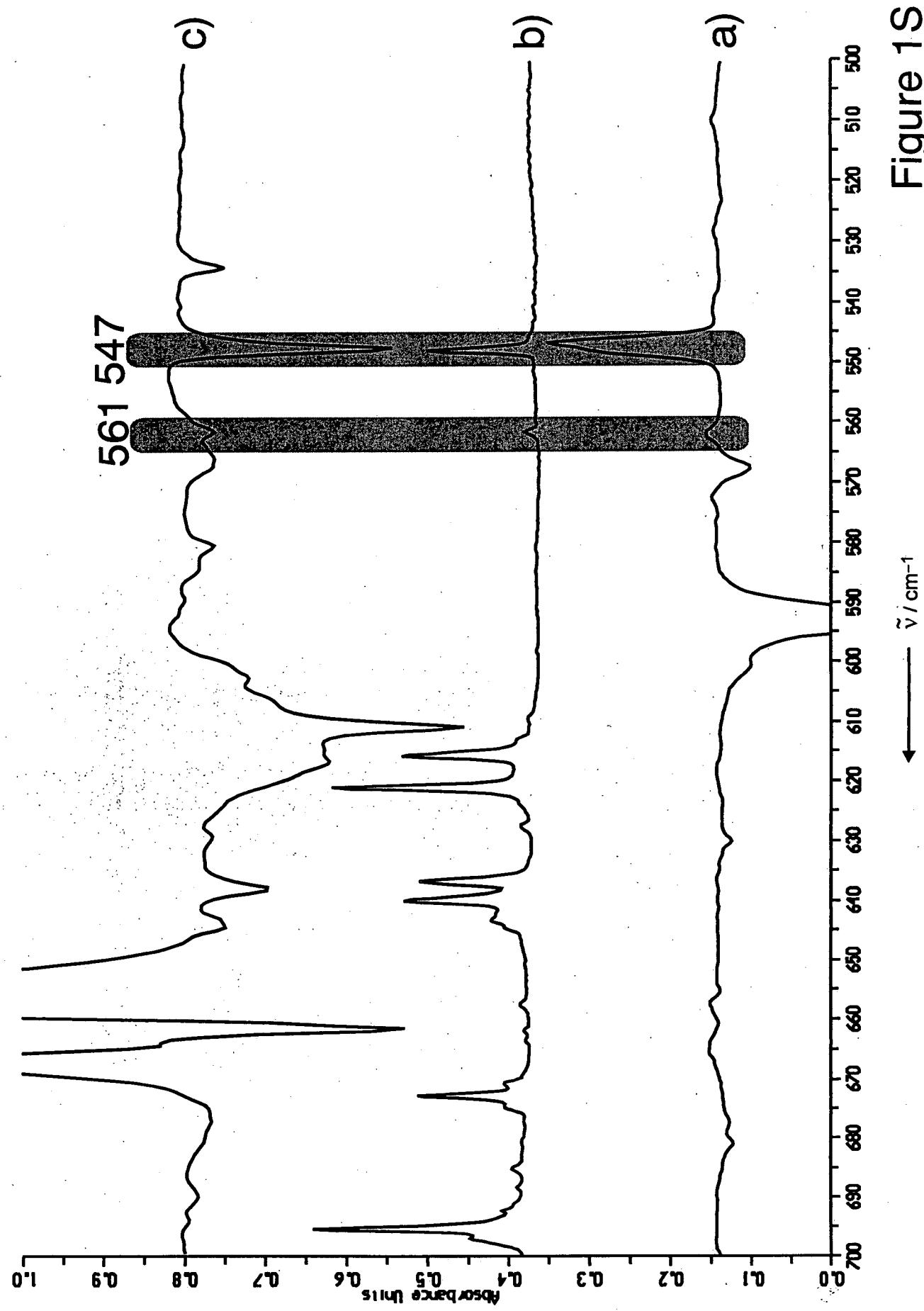


Figure 1S

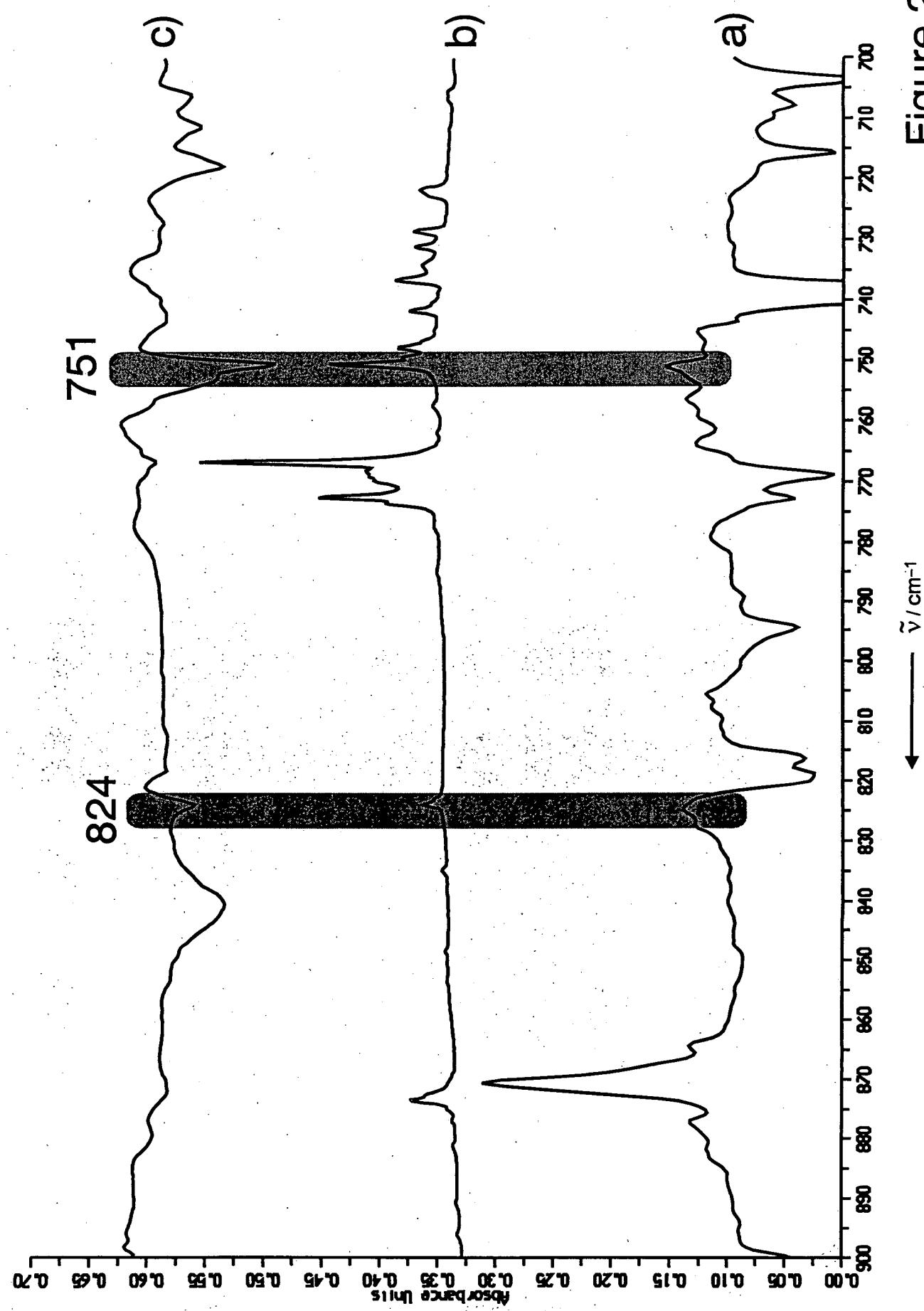


Figure 2S

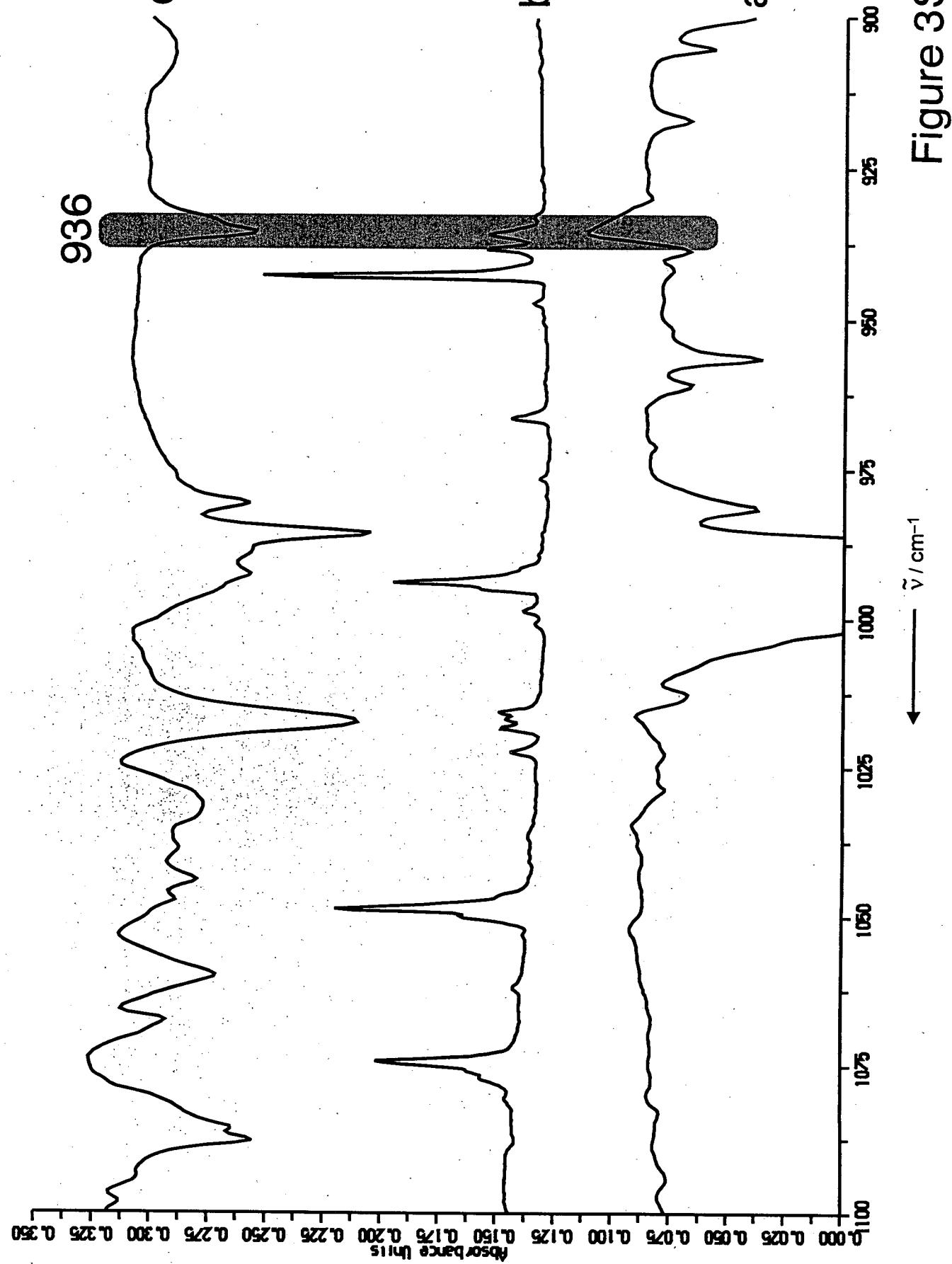


Figure 3c

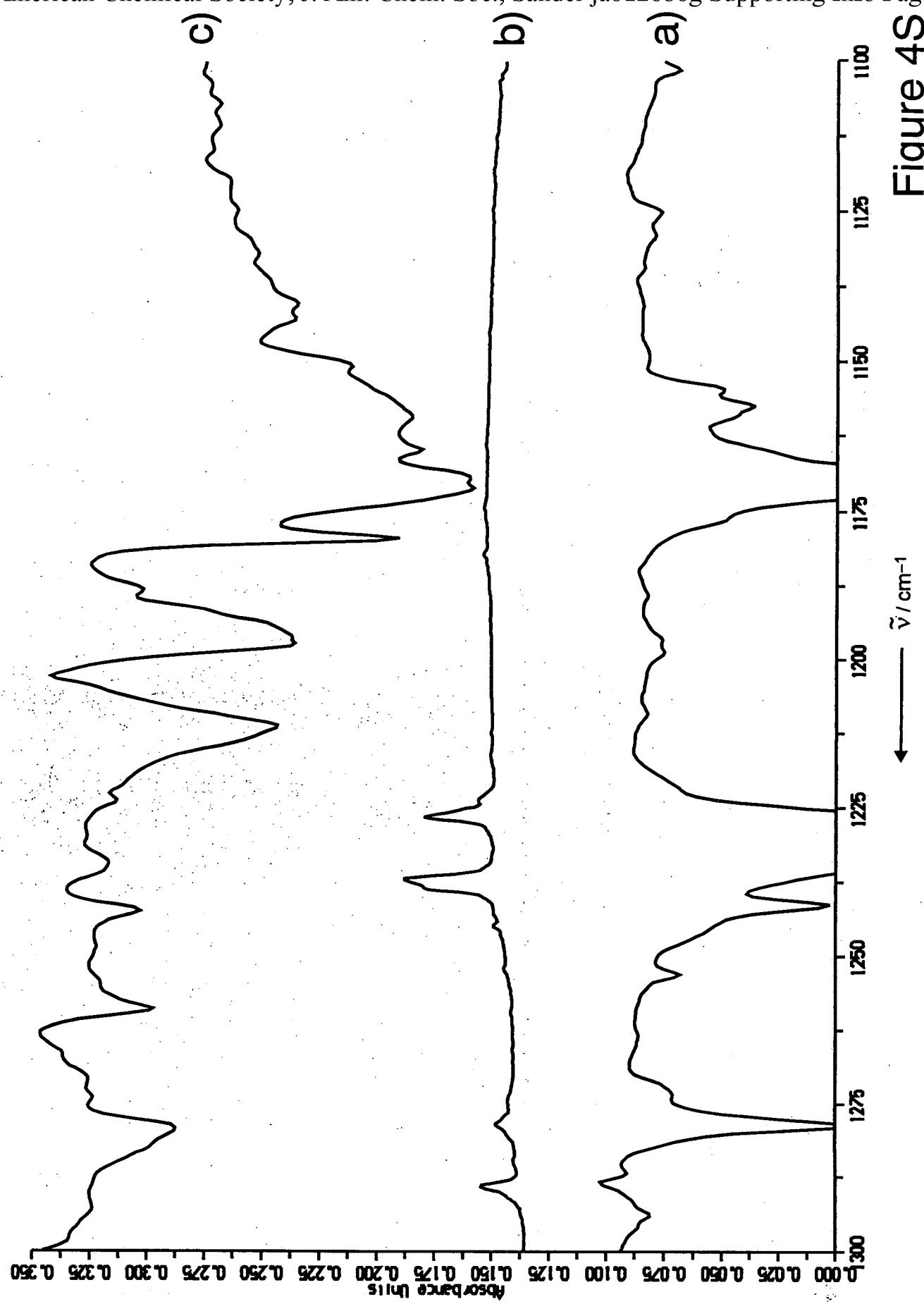


Figure 4S

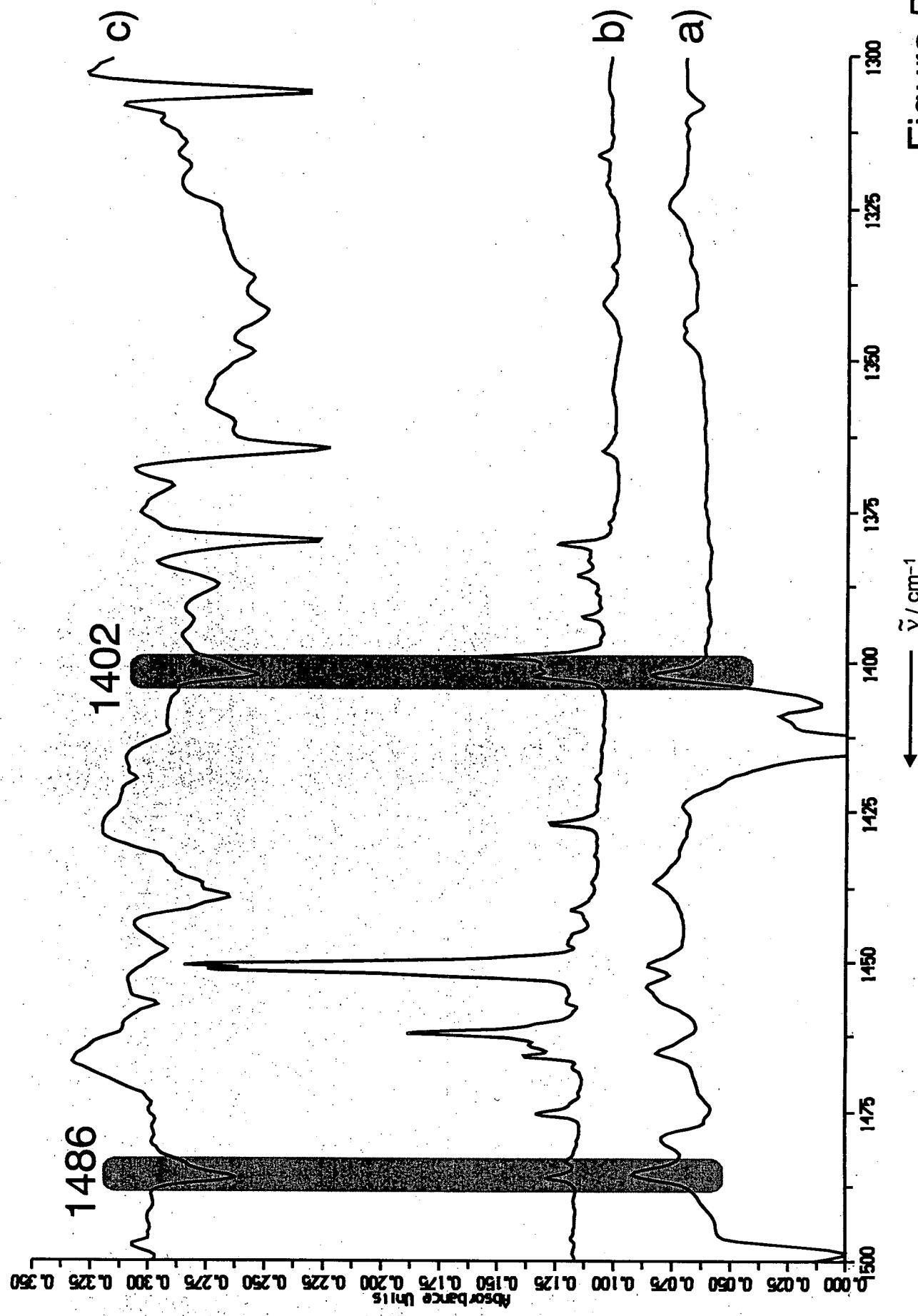


Figure 5S

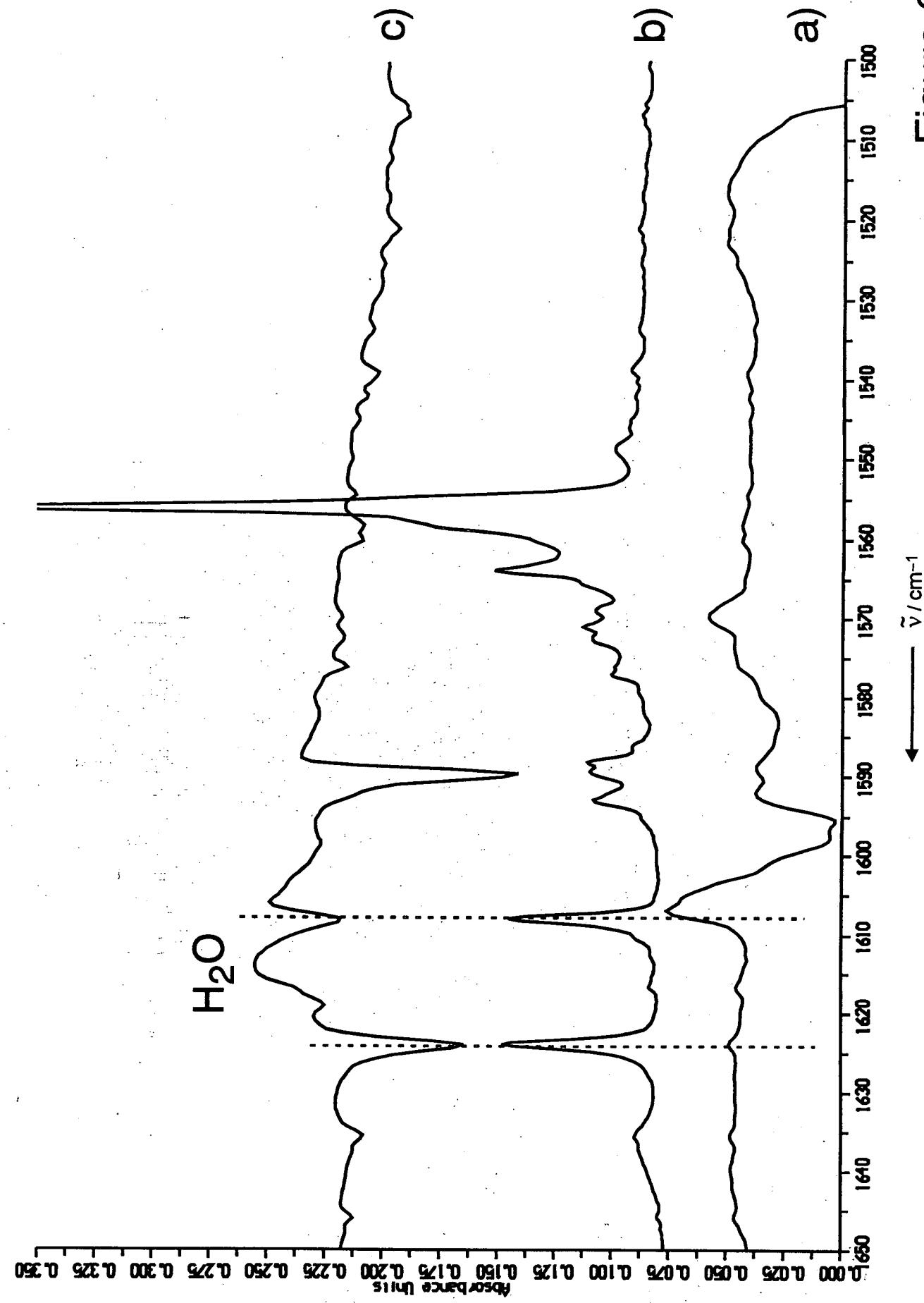


Figure 6S