IDENTIFICATION AND CHARACTERIZATION OF SELECT MEMBERS OF THE TAXANE FAMILY USING RAMAN SPECTROSCOPY

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Experimentally derived Raman spectra of three members of the taxane family are presented. The taxoids investigated were docetaxel (Taxotere), baccatin III and cephalotaxine. These analytes were studied because of their potent antitumor capabilities or they are potential precursors for the synthesis of highly valuable pharmaceutical drugs. Drop coating deposition Raman (DCDR) spectroscopy is utilized in order to examine the vibrational frequencies of the solids and solutions, down to micromolar concentrations. Experimental Raman modes of frequency are compared to quantum calculations and related literature.