

(2) The Pt complex (a) shows an infrared band at 822 cm^{-1} that has been attributed to an Oxygen-Oxygen stretching mode. This seems to be a mode in which the two oxygen atoms just move away from each other and Pt–O stretching is insignificant. If you *approximate* the O–O unit as a harmonic oscillator, where would you expect the ^{18}O substituted compound (b) to absorb? (The band in (b) is observed within 2 cm^{-1} of this value, which is rather fortuitous in view of our severe approximation).

