



**FIGURE 9.** (a) Variations of the relative intensity ratio of  $R_2$  to  $R_1$  ( $I_2/I_1$ ) at temperatures from 100–600 K at atmospheric pressure for different ruby samples. (b) Plot of the temperatures at which the maximum  $I_2/I_1$  values,  $(I_2/I_1)_{\text{max}}$ , occurred at ambient pressure vs. the  $\text{Cr}_2\text{O}_3$  contents of the ruby samples. (c) Relationship between  $(I_2/I_1)_{\text{max}}$  at atmospheric pressure and  $(I_2/I_1)_0$ , the relative intensity ratio of  $R_2$  to  $R_1$  at room temperature and atmospheric pressure, for ruby samples with different  $\text{Cr}_2\text{O}_3$  contents.