

## Raman study of the neutral state donor-acceptor complexes $\text{Ni}\cdot(\text{nPr})\cdot(\text{C}_{60})_2$ and $\text{Cu}\cdot(\text{nPr})\cdot(\text{C}_{60})_2$ at high pressure

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We have measured the Raman spectra of the molecular neutral state donor-acceptor complexes  $\text{Ni}\cdot(\text{nPr})\cdot(\text{C}_{60})_2$  and  $\text{Cu}\cdot(\text{nPr})\cdot(\text{C}_{60})_2$  as a function of pressure up to 10 GPa and at room temperature in order to study possible pressure-induced phase transitions related to charge transfer to  $\text{C}_{60}$  acceptor molecules and/or polymerization of  $\text{C}_{60}$  molecules.

SpectraPro-2500i equipped with a Peltier-cooled CCD Pixis2K. The measurements at high pressure were performed by the use of the high pressure diamond anvil cell of Mao-Bell type. The 514.5 nm  $\text{Ar}^+$  laser line was focused on the sample by means of a 50 $\times$  objective in a spot of  $\sim 10$   $\mu\text{m}$  diameter, while the beam intensity on the sample was  $\sim 5$  mW.

Raman spectra were measured in the region of the  $A_g(2)$  pentagon-pinch (PP) mode which is most sensitive to the irreversible pressure-induced transformations manifested usually by abrupt softening of this mode. Almost all modes exhibit positive pressure shift with some peculiarities that may be attributed to irreversible transformation of material at high pressure. The detailed analysis of the pressure dependence will be done that may give important information about the character of transformation observed at high pressure.

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