

Supporting Information:

Pressure-induced Reverse Reaction of the Photochemical Decomposition of Germanium Tetraiodide Molecular Crystal

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1. High pressure apparatus

The diameter of culet of our used diamond anvil cell (DAC) is 600 μm . The gasket which is used to protect the DAC and keep the high pressure environment is made from T301 stainless steel. After loading GeI_4 sample into the gasket hole drilled by MH20M spark eroder (BETSA), we pressed the sample with a press similar to the NBS type. Generally, pressure was increased gradually, followed by a relaxation time lasting for about 10 minutes.

2. Sealing GeI_4 in cyclohexane solution

Firstly, 10^{-2} mol/L GeI_4 in cyclohexane solution was prepared; then one end of the glass capillary with diameter 0.9-1.1 mm was immersed into the solution. After absorbing the solution, both two ends of the capillary were clogged by plasticine. Raman spectra excited by different lasers were collected from the liquid column in the capillary.