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Communication

Investigating the Possible Origin of Raman Bands in Defective sp^2/sp^3 Carbons below 900 cm^{-1}: Phonon Density of States or Double Resonance Mechanism at Play?

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Supplementary information:

D and G band dispersions for heated a-C:H, deposited diamond and bombarded graphite samples are given as a function of E_L, the laser energy, in Figure S1. IPD and OPD stand for In-plane and Out-of-plane defects, respectively. See Pardanaud et al (2015) for more details.

Spectra without base line subtraction are given from 200 to 2000 cm^{-1} for the same samples in Figure S2. The intensity has been scaled for comparison. Note that the intensity scale of Figure 2b has been set logarithmic to better see both bands and baseline.

Two typical EELS spectra (one for as deposited a-C:H and one for as-grown diamond film D (3%)) are given in Figure S3.

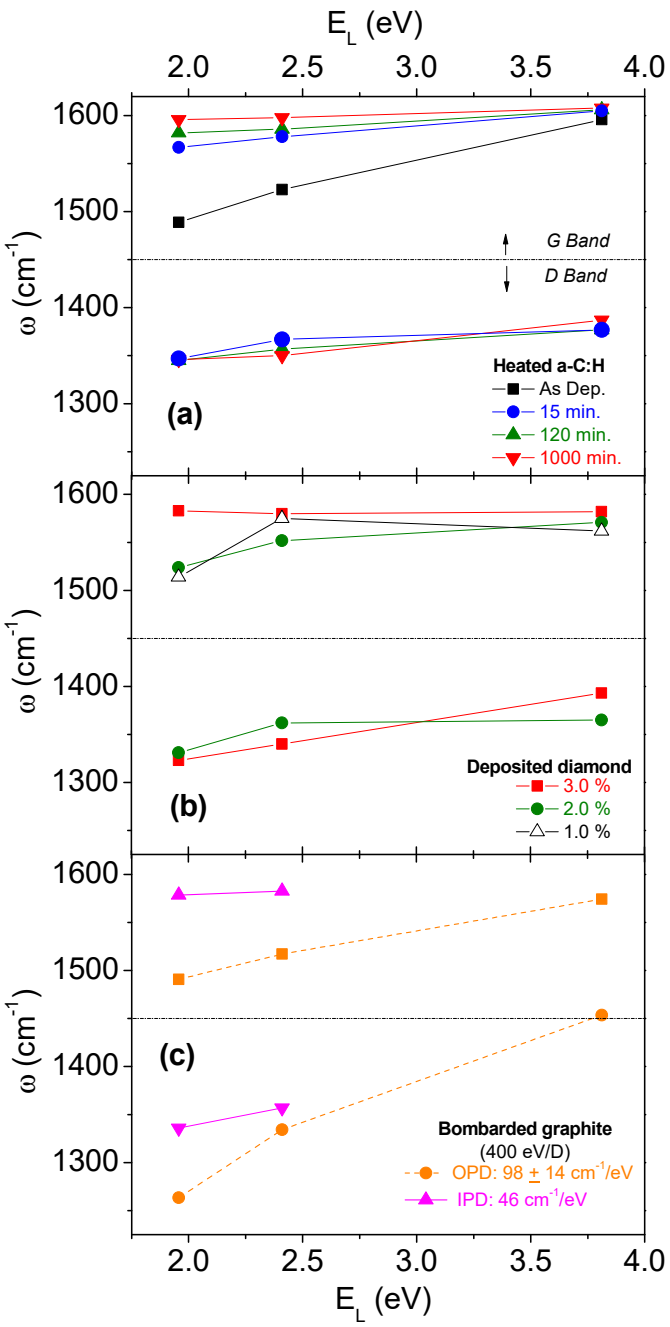

Figure S1. D and G band dispersion. (a) heated a-C:H samples, (b) as-grown diamond films, (c) bombarded graphite (400 eV/D).

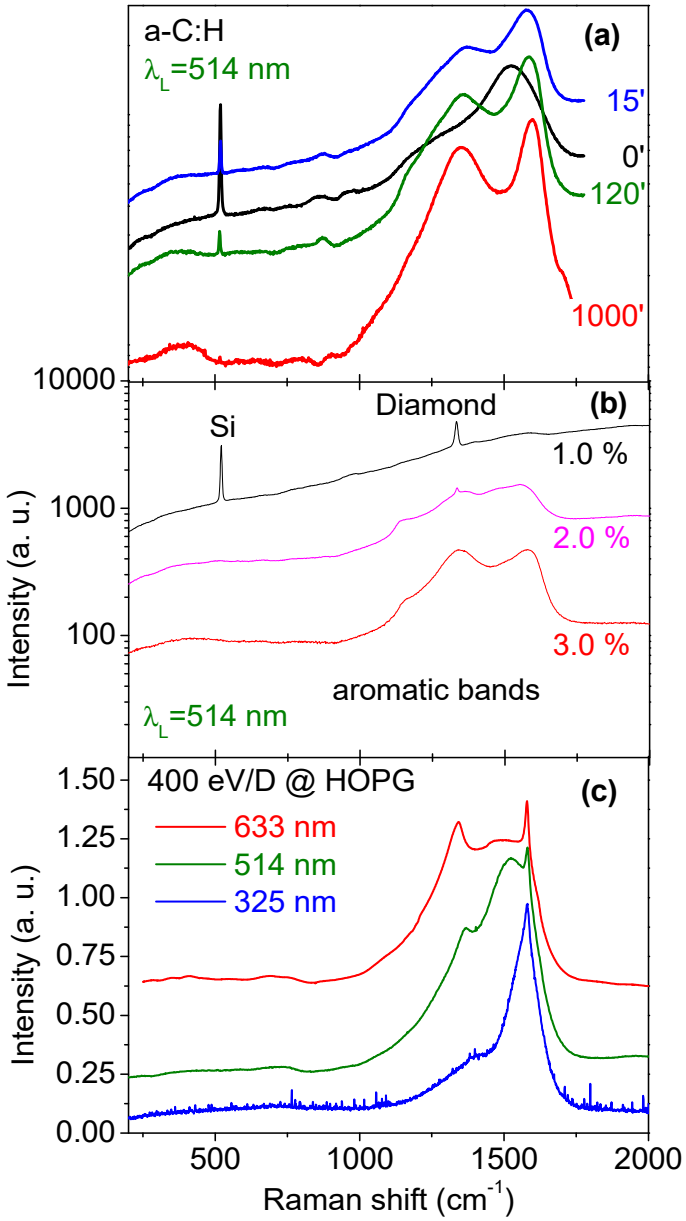

Figure S2. Multi-wavelength Raman spectra without base line subtraction. (a) heated a-C:H samples, (b) as-grown diamond films, (c) bombarded graphite (400 eV/D).

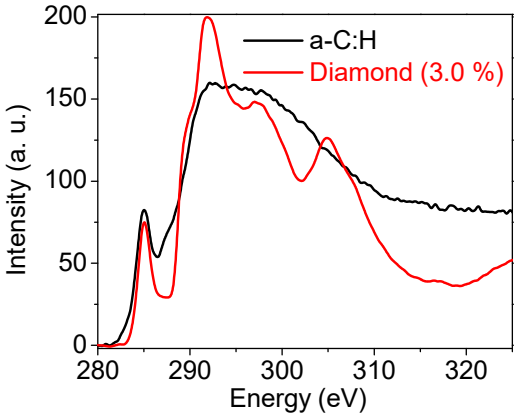

Figure S3. EELS spectra of as deposited a-C:H sample, and as-grown diamond film. Methodology to obtain sp^2/sp^3 ratio is explained in Lajaunie et al (2017).