

# Off-Resonance Gold Nanobone Films at Liquid Interface for SERS Applications

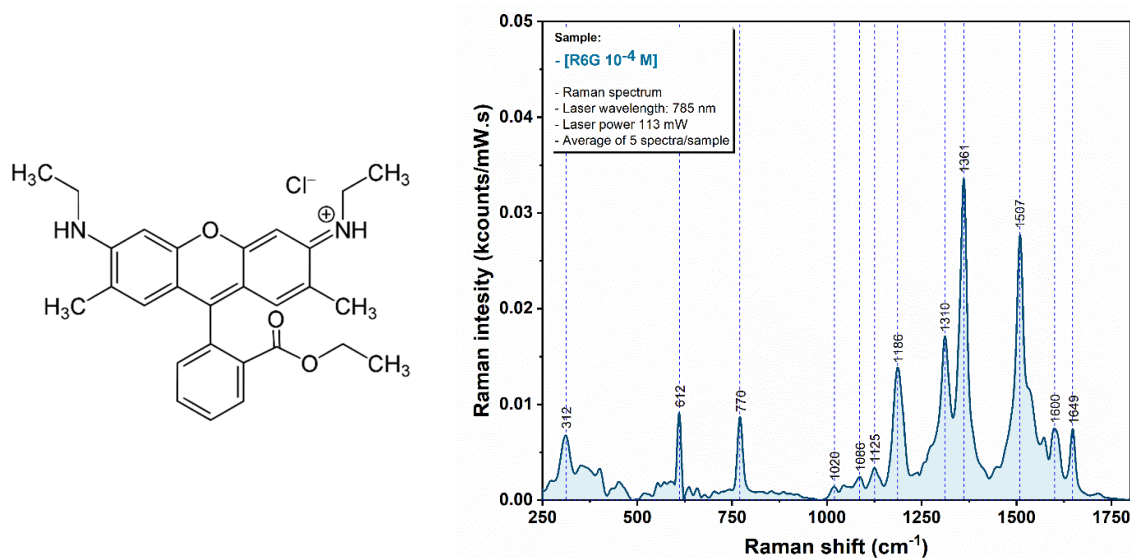
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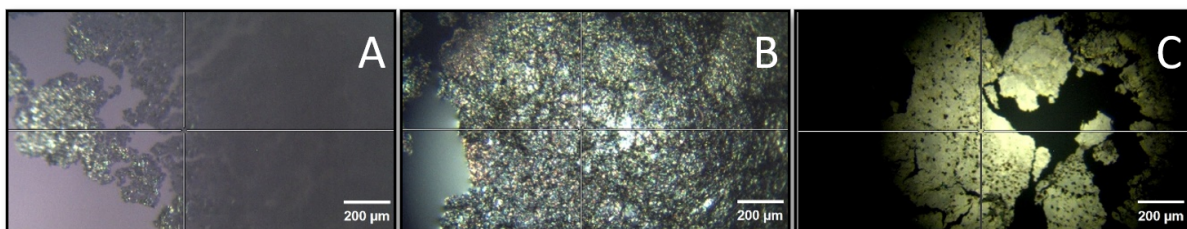
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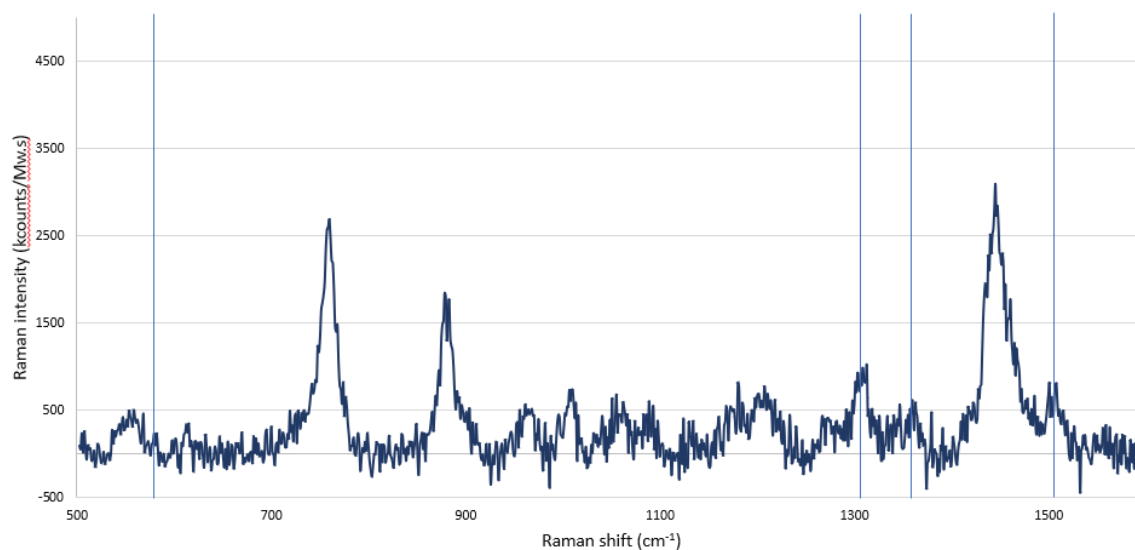
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**Figure S1.** Chemical structure (left) and corresponding Raman spectrum of R6G (right).



**Figure S2.** Images of the close-packed films formed via self-assembly at the CYH/Water interface seen through optical microscope.



**Figure S3.** SERS spectra of 5 nM R6G on off-resonance GNBs film assembled at liquid-liquid interface. Characteristic vibrational bands can still be distinguished at 612  $\text{cm}^{-1}$  (C–C–C ring in-plane vibration), 1311  $\text{cm}^{-1}$  (N–H in-plane bending), 1362  $\text{cm}^{-1}$  and 1507  $\text{cm}^{-1}$  (C–C stretching).

Table SI. Enhancement ratio for samples A, B and C in dispersion (“d”) and as aggregated films at the liquid-air interfacial region (“i”).

Raman Intensity Ratio	Raman Shift 612 $\text{cm}^{-1}$
Ad/Bd	2.13
Ad/Cd	6.19
Bd/Cd	2.89
Ai/Bi	2.03
Ai/Ci	1.88
Bi/Ci	0.92
Ai/Ad	16.79
Bi/Bd	17.65
Ci/Cd	55.31