

Supplementary Material

Monitoring the Wobbe Index of Natural Gas Using Fiber-Enhanced Raman Spectroscopy

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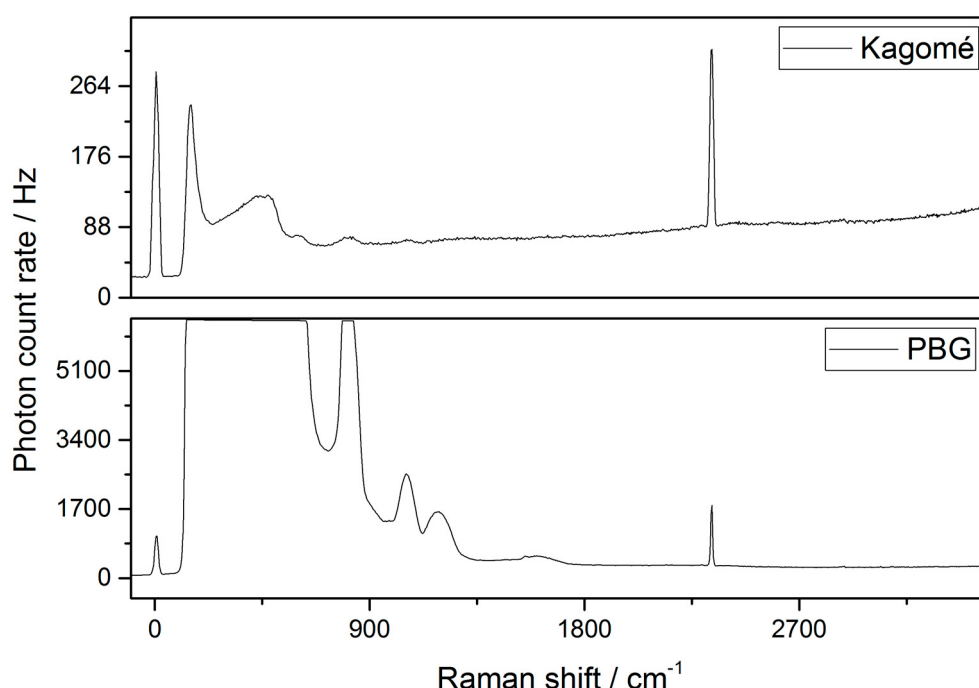


Figure S1. Full spectra of pure nitrogen for the kagomé-type and PBG fiber. Fiber length is 80 cm, applied pressure 2 bar and laser power coupled into the fiber 28 mW and 27 mW respectively.

Table S1. Wavenumbers and scattering intensity relative to nitrogen of important natural gas components.

Wavenumber [cm ⁻¹]	Gas	Relative intensity
827	<i>n</i> -Butane	1.9 [1]
870	Propane	1.6 [1,2]
993	Ethane	1.2 [1,2]
1286	Carbon dioxide	0.8 [1,2]
1388	Carbon dioxide	1.1 [1,2]

1535	Methane	0.1 [1]
2331	Nitrogen	1 [3,4]
2890	<i>n</i> -Butane	15.6 [1]
2908	Propane	19.6 [1,2]
2914	Ethane	15.0 [1,2]
2917	Methane	8.6 [1,2]

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