SUPPLEMENTAL MATERIAL

An adaptive and fully-automated baseline correction method for Raman spectroscopy based on morphological operations and mollification

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The four types of baselines described in the paper are generated using the following equations:

1) linear baseline:

$$baseline_l = 0.5 \times r, \qquad r \in [0, 2000]$$

2) sine baseline:

$$baseline_{\sin} = 1000 \times \sin(\frac{(r+1000)\pi}{1000}), \quad r \in [0, 2000]$$

3) sigmoidal baseline:

$$baseline_{sig} = \frac{1000}{1+e^{-0.03(r-1000)}}, \qquad r \in [0, 2000]$$

4) 4th order polynomial baseline:

$$baseline_p = 80.5 + 0.001519 \times r + 1.6625 \times 10^{-5} \times r^2 + 6.39 * 10^{-9} \times r^3 - 4.6105 \times 10^{-12} \times r^4, \quad r \in [0, 2000]$$

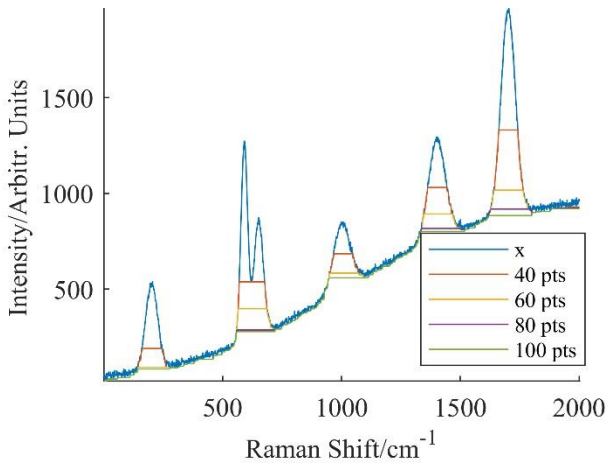

Figure S1 The influence of selected structuring element size on the opening operation

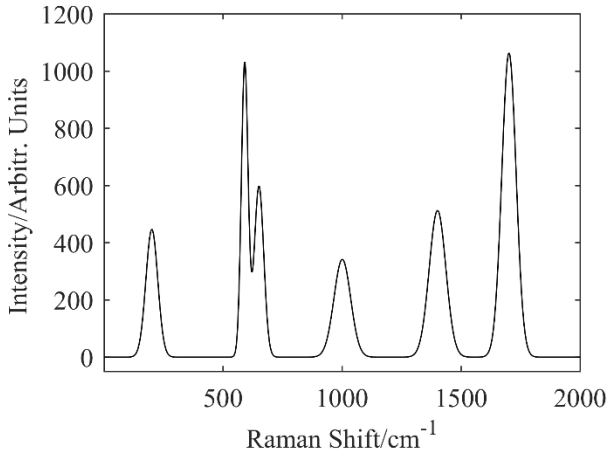

Figure S2 The pure Raman signal generated with Gaussian peaks.