

# Stretching and folding of 2-nanometer hydrocarbon rods

## Supplementary Information

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Table S1: Further measurement conditions.  $n$ =chain length,  $\vartheta$ =substance preparation temperature,  $p_0$ =stagnation pressure of the carrier gas,  $p_b$ =background pressure in the vacuum chamber during the expansion,  $t$ =total exposure time. “scans” is the number of averaged spectra.

$n$	$\vartheta/^\circ\text{C}$	He + 4% CF <sub>4</sub> <sup>*</sup>		He <sup>†</sup>					
		$t/\text{h}$	scans	$t/\text{h}$	scans	$t/\text{h}$	scans	$t/\text{h}$	scans
13	37	2.0	24	2.0	24	1.0	6	0.7	28
16	65	0.5	6	1.5	18	1.0	6	0.6	24
17	75	0.5	6	0.5	6	1.0	6	0.7	28
18	85–97	1.0	12	2.2	26	1.0	6	1.4	28
19	95	0.7	8	1.3	16	1.0	6	1.4	28
20	105	0.7	8	0.7	8	1.0	6	0.6	24
21	125	—	—	1.3	8	1.0	6	0.3	6

\*  $p_0 = 0.9$  bar,  $p_b = 1.3$  mbar

†  $p_0 = 0.5\text{--}0.6$  bar,  $p_b = 0.8\text{--}0.9$  mbar

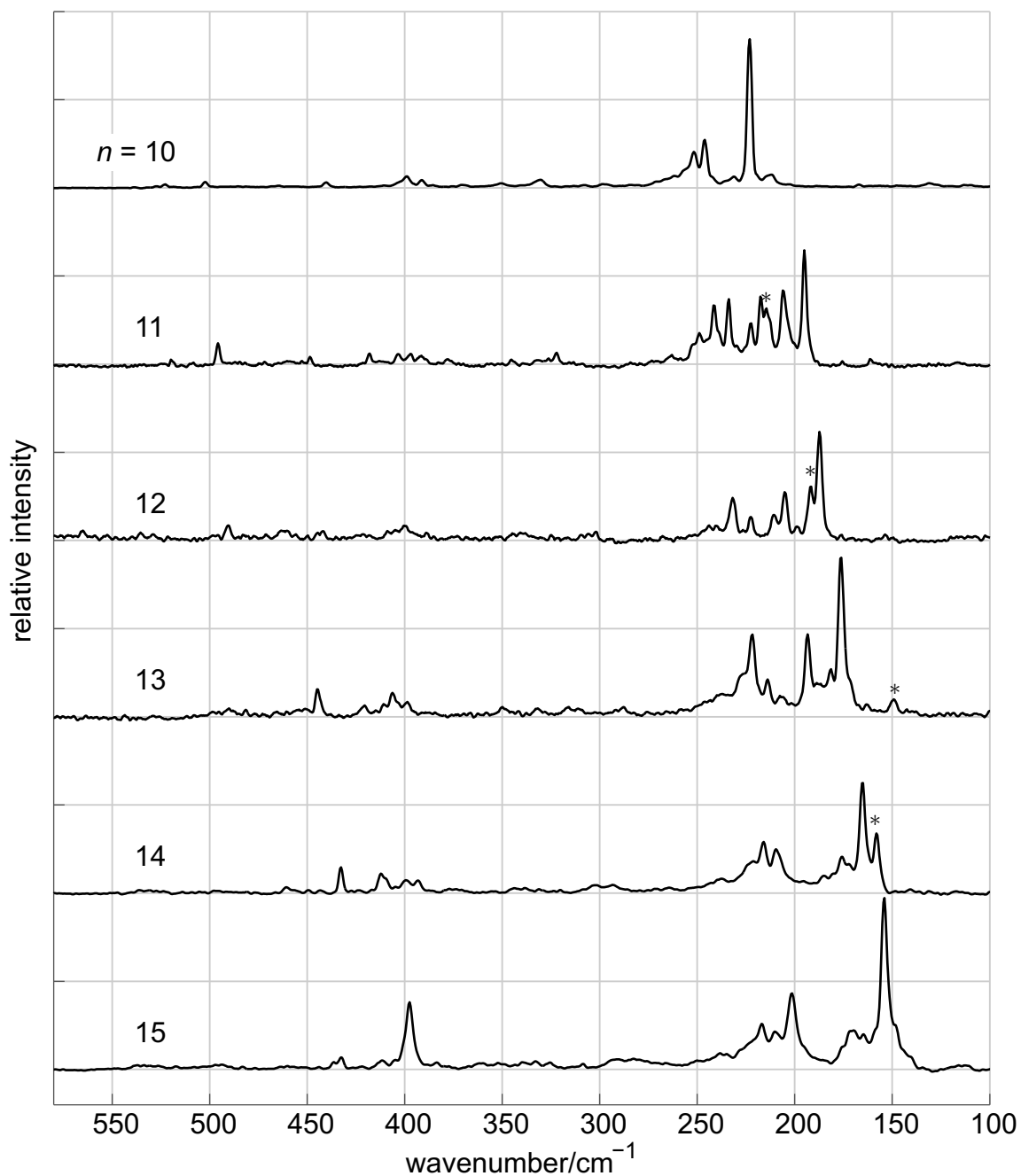


Figure S1: Averaged jet-cooled Raman spectra of the low-frequency region of alkanes with chain lengths  $n=10$ – $15$  in He expansions. Spectra are scaled to the overall LAM-1 peak intensity including signals of coupling vibrations ( $n=10, 13$ : harmonic mode mixing,  $n=12, 14$ : anharmonic Fermi resonance, marked with \*).