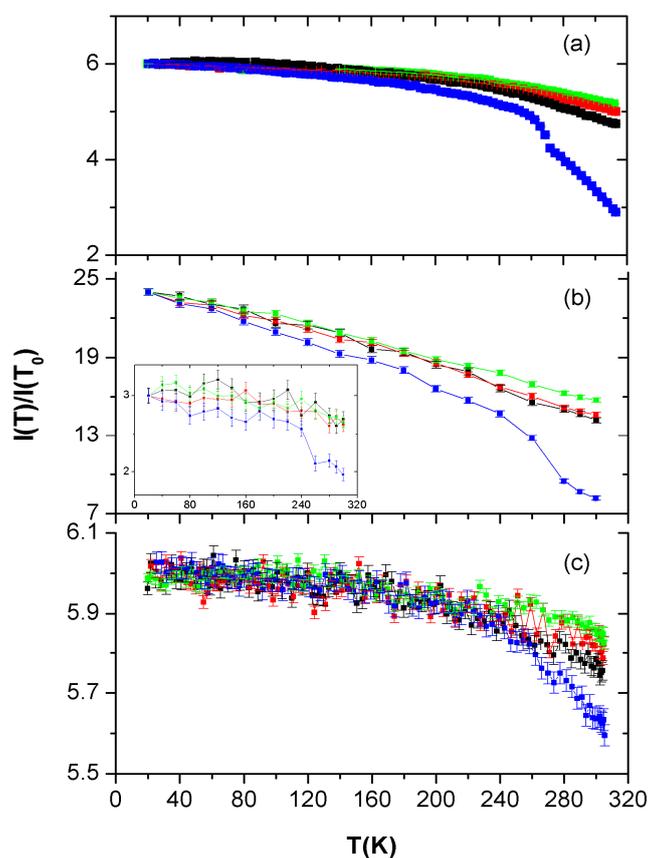


# Supplementary Materials Mobility of a Mononucleotide within a Lipid Matrix: A Neutron Scattering Study

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## 1. Elastic Scattering Intensities

Figure S1 reports the temperature dependence of the normalized elastic intensities integrated all over Q values for AMP-dMPL at the four hydrations acquired on IN16b, IN13 and IN5, respectively (in descending of energy resolution). Summed all over Qs is intended until a value of  $Q \approx 1 \text{ \AA}^{-1}$ : this is due to the experimental observation of a multiplicity of Bragg peaks, as already shown in Figure S1; the only exception is  $I(T)/I(20 \text{ K})$  intensity scan for IN13 to improve the statistics (IN13 has only 3 detectors with a Q value below  $1 \text{ \AA}^{-1}$ ).



**Figure S1.** Normalized elastic scattering intensity curves integrated all over Q values for AMP-dMPL-h0 (green), AMP-dMPL-h15 (red), AMP-dMPL-h25 (black) and AMP-dMPL-h35 (blue), obtained with the neutron spectrometers (a) IN16b; (b) IN13 and (c) IN5. Curves are normalized to  $T = 20 \text{ K}$  for IN16b and IN13,  $T \approx 50 \text{ K}$  for IN5. Inset in panel b: integration over first 3 detectors for check.