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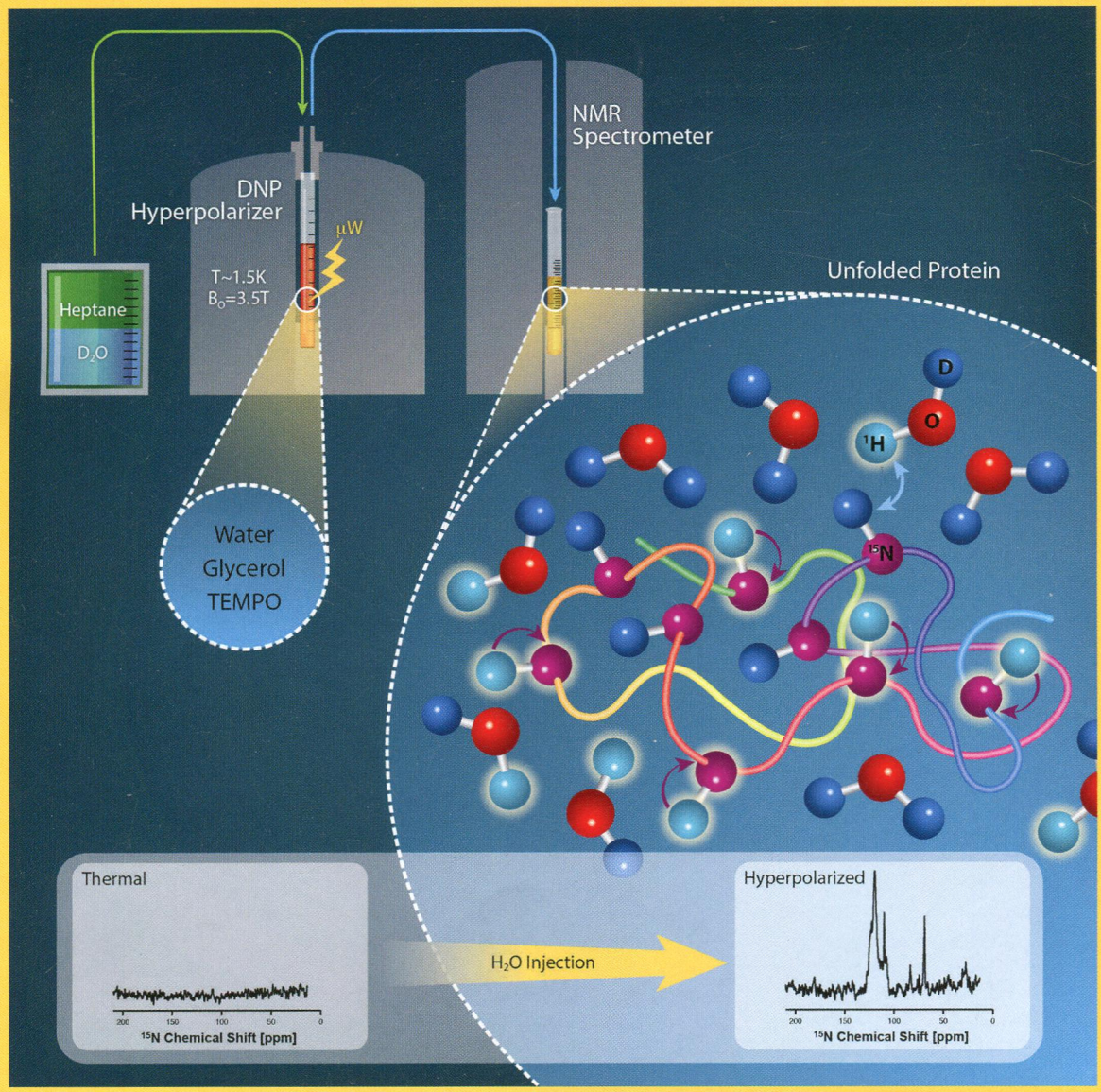

Enhancing the Sensitivity of Solution-Phase Protein NMR by Optimized Injections of Hyperpolarized Water (see page 5A)

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ON THE COVER: Enhancing the sensitivity of solution-phase protein NMR by optimized injections of hyperpolarized water. A main obstacle arising when using ex situ hyperpolarization to increase the sensitivity of biomolecular NMR is the fast relaxation that spins undergo upon being transferred from the cryogenic polarizer to the room temperature spectrometer. To cope with this limitation, this study explores the use of hyperpolarized water: methods to achieve optimal spin polarization of H_2O's protons were devised, and substantial spontaneous enhancement of certain ^1H and ^{15}N biomolecular resonances was observed upon using such hyperpolarized water to dissolve amino acids and polypeptides. See page 3281.

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