

## **Solid Water at room temperature and pressure: a mass spectrometry and thermogravimetry study.**

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This paper present a short review of experimental physicochemical studies on water perturbed by prolonged contact with the hydrophilic polymer Nafion. The results indicate that supramolecular aggregates of water molecules form after the contact with Nafion surface. This suggest that water possess an exceptional self-organization capability triggered by the contact with a hydrophilic surface. Lyophilization of the perturbed liquid water produce a solid in ponderal quantities, stable at ambient pressure and temperature. The solid exhibits an extraordinary stability at temperature as high as 800°C. The IR spectra and the Thermo Gravimetric Analysis (TGA) coupled with Mass Spectrometry (MS), indicate that it is a new substance of chemical composition independent from the polymer Nafion. Probably it is a new state of the water.