Mild hydration of didecyldimethylammonium chloride modified DNA by 1H-nuclear magnetic resonance and by sorption isotherm

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Résumé en anglais	The gaseous phase hydration of deoxyribonucleic acid and didecyldimethylammonium chloride (C19H42ClN) complexes (DNA-DDCA) was observed using hydration kinetics, sorption isotherm, and high power nuclear magnetic resonance. Three bound water fractions were distinguished: (i) a very tightly bound water not removed by incubation over silica gel, (ii) a tightly bound water saturating with the hydration time t(1)(h) (0.596 +/- 0.04) h, and a loosely bound water fraction, (iii) with the hydration time t(2)(h) (20.9 +/- 1.3) h. Proton free induction decay was decomposed into the signal associated with the solid matrix of DNA-DDCA complex (T-2S approximate to 30 mu s) and two liquid signal components coming from tightly bound (T-2L1 approximate to 100 mu s) and from loosely bound water fraction (T-2L2 approximate to 1000 mu s).
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