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Spincoating of ultrathin chitosan films CHRIS MURRAY[1], JOHN DUTCHER, University of Guelph — We have studied the spincoating of ultrathin chitosan films onto silicon wafer substrates from dilute solutions of chitosan dissolved in acetic acid solutions. This particular example of spincoating presents unique difficulties due to the non-volatility of the solvent, but also provides unique information since the spincoating process is slow enough to allow detailed measurements of the drying of the film. The resulting film thickness, as measured using ellipsometry, is a strong function of the relative humidity (RH) in the surrounding atmosphere, which can be easily controlled. By using a simple model for the dependence of film thickness on spin speed and RH, we obtain a measure of water uptake in chitosan films that can be compared with that estimated from sorption isotherms measured using ellipsometry.

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