

ARTICLE

In-situ analysis of growth rate evolution during molecular layer deposition of ultra-thin polyurea films using aliphatic and aromatic precursors

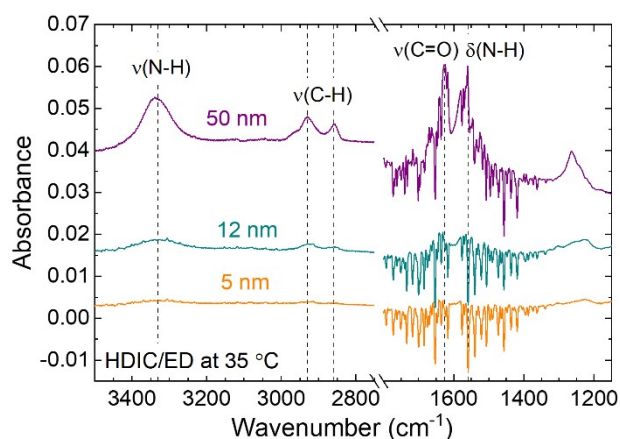
Received 20th October 2021,
Accepted 00th January 20xx

DOI: 10.1039/x0xx00000x

Rachel A. Nye,^a Siyao Wang,^a Stefan Uhlenbrock,^b John A. Smythe III,^b and Gregory N. Parsons^{*a}

Supporting Information

FTIR analysis of the HDIC/ED film is conducted at different thicknesses between 5-50 nm thick. Results are shown in Fig. S1. The intensity of the associated polyurea peaks, detailed in Fig. 6 in the Results Section, grow with increasing film thickness. There is no significant shifting of the amide peaks ($\sim 1560\text{ cm}^{-1}$ and $\sim 1620\text{ cm}^{-1}$) at these different thicknesses, indicating that for film thicknesses above 5 nm, the H-bonding strength within the film does not significantly change.



Sup. Fig. 1 FTIR spectra of HDIC/ED films measuring 5 nm (orange), 12 nm (green), and 50 nm (purple) thick deposited at 35 °C on hydroxylated SiO₂. Relevant polyurea peaks are highlighted.

^a North Carolina State University, Department of Chemical and Biomolecular Engineering, 911 Partners Way, Raleigh, North Carolina 27606

^b Micron Technology Inc, 8000 S Federal Way, Boise, Idaho 83716

Electronic Supplementary Information (ESI) available: [details of any supplementary information available should be included here]. See DOI: 10.1039/x0xx00000x