



**Supplementary Figure S7.** 1D 500-MHz <sup>1</sup>H NMR spectra (300K, D<sub>2</sub>O) of the saccharide mixtures of (A) the M-block alginate, (B) the G-block alginate, and (C) the low-viscosity *M. pyrifera* alginate, generated after 24 h incubations with the AlyRm4 enzyme. The A and B color-coding system (cyclic hemiacetal structures) is explained in Figure 8 of main text. (See also Supplementary Figure S8). \* Traces of carboxylic acids.