



Supplementary Figure S1. 10% SDS-PAGE of crude extracts (15 μg protein) of *E. coli* JM109 harbouring the respective plasmids, pHWG987 and pHWG991 containing the alginase lyase genes *alyRM3* and *alyRM4*, respectively, and purified $(\text{His})_6$ -alginate lyases (3 μg protein) after IMAC. (CE- crude extract without induction; CE+ crude cell extract from rhamnose-induced cells). The first two lanes showing the marker and the control crude extract were spliced to the lanes with the alginase crude extracts and the purified enzymes for a clearer presentation