Supporting Information

Modification of pea starch and dextrin polymers with isocyanate functional groups

Reza Hosseinpourpia 1,*, Arantzazu Santamaria Echart 2, Stergios Adamopoulos 1, Nagore Gabilondo 2 and Arantxa Eceiza 2,*

1 Department of Forestry and Wood Technology, Linnaeus University, Lückligs Plats 1, 35195 Växjö, Sweden; reza.hosseinpourpia@lnu.se
2 Materials + Technologies’ Group, Chemical & Environmental Engineering Dep., Polytechnic College of San Sebastian, University of the Basque Country UPV/EHU, Pza. Europa 1, 20018 Donostia-San Sebastián, Spain; arantzazu.santamaria@ehu.eus
3 Department of Forestry and Wood Technology, Linnaeus University, Lückligs Plats 1, 35195 Växjö, Sweden; stergios.adamopoulos@lnu.se
4 Materials + Technologies’ Group, Chemical & Environmental Engineering Dep., Polytechnic College of San Sebastian, University of the Basque Country UPV/EHU, Pza. Europa 1, 20018 Donostia-San Sebastián, Spain; nagore.gabilondo@ehu.eus
5 Materials + Technologies’ Group, Chemical & Environmental Engineering Dep., Polytechnic College of San Sebastian, University of the Basque Country UPV/EHU, Pza. Europa 1, 20018 Donostia-San Sebastián, Spain; arantxa.eceiza@ehu.eus

*Corresponding authors:
Phone: +34-943-017185 E-mail: arantxa.eceiza@ehu.es
Phone: +46-470-708074 E-mail: reza.hosseinpourpia@lnu.se
Degree of substitution (DS)

The DS was calculated according to the equation S.1, which adjusted from Wang et al.\textsuperscript{1} and Heinze et al.\textsuperscript{2} due to the two functional groups in IPDI:

\[
DS = \frac{162.15 \times N\%}{14 \times 100 - 119.12 \times N\%} \times \frac{2}{14}
\]  

S.1

where N\% is nitrogen content (%) determined by elemental analysis method, 162.15 is the molecular weight of anhydrous glucose unit, 119.12 is the molecular weight of IPDI, and 14 represents the nitrogen atomic mass.

Figure S1: FTIR spectra of neat toluene and toluene from the third washing.
Figure S2: SEM micrographs of MS 3.1 (a) and MD 3.1 (b)

References
