

Supporting Information

A Green Technology for the Preparation of High Fatty Acid Starch Esters: Solid Phase Synthesis of Starch Laurate Assisted by Mechanical Activation with Stirring Ball Mill as Reactor

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Table S1. DS of the starch laurates prepared by MASPS under different reaction conditions.

Sample	Molar ratio of lauric acid/AGU	Mass ratio of K ₂ CO ₃ /starch	Reaction time (h)	Reaction temperature (°C)	DS ^a
A1	1:10	0.25:10	1	60	0.0256±0.0006
A2	2:10	0.25:10	1	60	0.0347±0.0014
A3	3:10	0.25:10	1	60	0.0398±0.0010
A4	4:10	0.25:10	1	60	0.0406±0.0009
A5	5:10	0.25:10	1	60	0.0412±0.0012
B1	3:10	0	1	60	0.0148±0.0004
B2	3:10	0.05:10	1	60	0.0288±0.0007
B3	3:10	0.25:10	1	60	0.0398±0.0010
B4	3:10	0.45:10	1	60	0.0382±0.0011
B5	3:10	0.65:10	1	60	0.0240±0.0009
C1	3:10	0.25:10	0.5	60	0.0225±0.0008
C2	3:10	0.25:10	0.75	60	0.0321±0.0011
C3	3:10	0.25:10	1	60	0.0398±0.0010
C4	3:10	0.25:10	1.5	60	0.0341±0.0007
C5	3:10	0.25:10	2	60	0.0299±0.0012
D1	3:10	0.25:10	1	40	0.0340±0.0008
D2	3:10	0.25:10	1	50	0.0350±0.0013
D3	3:10	0.25:10	1	60	0.0398±0.0010
D4	3:10	0.25:10	1	70	0.0378±0.0009
D5	3:10	0.25:10	1	80	0.0368±0.0013

^aData represent the mean ± standard deviation.