

Article

# Catalytic dehydration of fructose to 5-hydroxymethylfurfural (HMF) in low boiling solvent hexafluoroisopropanol (HFIP)

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## Supplementary Materials:

**Table S1.** Properties of applied dry cationic ion-exchange resins. All data were provided by the manufacturers.

catalyst name	matrix	acid site concentration [mmol/g]	T <sub>max</sub> [°C]	pore diameter [nm]	BET surface area [m <sup>2</sup> /g]	pore volume [cm <sup>3</sup> /g]
Lewatit K2420	styrene/DVB <sup>1</sup> macroporous	5.4	150	53	30	0.4
Lewatit K2431	styrene/DVB <sup>1</sup> macroporous	1.2 <sup>2</sup>	130	40	25	0.35
Lewatit K2620	styrene/DVB <sup>1</sup> macroporous	5.2	140	41	33	0.45
Amberlyst 15	styrene/DVB <sup>1</sup> macroporous	4.7	120	30	53	0.4
Amberlyst 16	styrene/DVB <sup>1</sup> macroporous	4.7	130	25	30	0.2
Amberlite IR-120 (H)	styrene/DVB <sup>1</sup> gel	4.5	135	<0.5	<0.1	-

<sup>1</sup>DVB = divinylbenzene. <sup>2</sup>wet form [mmol/L].

**Table S2.** Chemical and physical characteristics as well as safety parameters of 1,1,1,6,6,6-hexafluoroisopropanol (HFIP).

boiling point [°C]	melting point [°C]	density [g/cm <sup>3</sup> ]	pK <sub>a</sub>	GWP (global warming potential)	Classification according to regulation (EC) No 1272/2008
58	-4	1.6	9.3	200	GHS 05, GHS 07, GHS 08