Supporting Information

Average (n=3) fragility, Tg (5 Hz), Tg_0, Arrhenius activation energy at Tg and WLF parameters for plasticized yellow-poplar wood at different grain orientations. Volumetric swelling before (upper value) and after above-Tg heating in each solvent is indicated. Standard deviations in parenthesis.

Solvent	Grain	Fragility	5 Hz Tg, °C	Tg_0 °C	Ea (KJ/mol)	C_1	C_2 (K)	Vol. swell. (%)
DMF	RT	26.68 (0.56)	56 (4)	26 (4)	181 (6)	37.8 (8)	409.1 (97)	26 (0.2) 27 (0.7)
	TR	27.19 (0.62)	47 (2)	16 (1)	173 (3)	29.3 (4)	304.7 (52)	
	XL	27.57 (0.84)	52 (2)	17 (4)	167 (7)	39.7 (16)	409.2 (171)	
NMP	RT	32.11 (0.91)	52 (1)	8 (3)	157 (9)	15.3 (0.4)	118.3 (4)	25 (0.4) 26 (0.4)
	TR	30.82 (1.15)	48 (2)	-6 (6)	123 (10)	15.9 (0.5)	121.8 (2)	
	XL	32.21 (0.82)	46 (2)	7 (4)	158 (12)	14.8 (0.9)	122.8 (10)	
Et-glycol	RT	37.80 (0.34)	100 (1)	77 (3)	345 (28)	26.3 (12)	231.1 (111)	21 (0.8) 25 (0.4)
	TR	39.54 (0.08)	94 (1)	71 (4)	322 (7)	22.0 (0.8)	168.9 (5)	
	XL	42.96 (1.05)	93 (1)	73 (1)	338 (30)	21.3 (2.0)	151.6 (15)	
Glycerol	RT	47.53 (0.21)	126 (2)	104 (1)	404 (24)	19.2 (0.6)	129.8 (4.9)	0.7 (1) 23 (2)
	TR	49.73 (1.21)	118 (0.3)	95 (3)	363 (58)	11.9 (0.6)	66.0 (4.6)	
	XL	50.65 (1.28)	112 (1)	91 (2)	367 (64)	9.54 (0.5)	51.9 (4.2)	