Electronic Supplementary Material (ESI) for Green Chemistry. This journal is © The Royal Society of Chemistry 2022

🖌 Lignin methacrylate production 🕊 Separatio	an of limin methacrulate						
0 1 1	0						
 Recovery of solvents Hydroge 	el production						
Heat and power generation							
		Hydrogel produce	ction Recovery of	solvents Hea	it and powerge	neration	
Fossil depletion	1111						
Metal depletion	······································	Fossil depletion					erre.
Water depletion	///	Metal depletion		*****			
Natural land transformation	·····················	Waterdepletion	100000000000		00000000		- C.
Urban land occupation		Natural land transformation				,,,,,,,,	
Agricultural land occupation	A COLORADO C	Urban land occupation Agricultural land occupation					
Ionising radiation		Ionising radiation					
Marine ecotoxicity		Marine ecotoxicity					
Freshwater ecotoxicity		Freshwaterecotoxicity					
Terrestrial ecotoxicity		Terrestrial ecotoxicity				-	×111.
Particulate matter formation		Particulate matter formation					10000
Photochemical oxidant formation		Photochemical oxidant formation					erre.
Human toxicity		Humantoxicity					10000
Marine eutrophication		Marine eutrophication					
Terrestrial acidification		Freshwatereutrophication	-	*****	******	*****	1000
Ozone depletion		Terrestrial acidification					****
Climate change		Ozone depretion					
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0 10 20 30 40	50 60 70 80 90 10	00	0 10 20 3	0 40 50	60 70	80 9	90 100

 $\label{eq:Fig.S1} Fig. S1 \ {\rm Contribution} \ of \ different sub-systems \ (represented in \ \%) \ involved in \ lignin \ hydrogel \ production \ towards \ 18 \ different \ categories \ summarizing \ environmental \ impact$