

Galactose-functionalised PolyHIPE Scaffolds for Use in Routine Three Dimensional Culture of Mammalian Hepatocytes

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SUPPORTING INFORMATION

Table S1 shows the different HIPE compositions used to prepare the polyHIPE materials:

Table S1: HIPE Formulations used to Prepare PFPA-containing PolyHIPE Materials.

	Wt. % in HIPE					Aq. H ₂ O	% PFPA ^b
	Organic						
	STY	DVB	EHA	PFPA ^a	Span80		
SDE-polyHIPE	4.1	0.7	2.1	0	2.4	90.7	0
10PFPA-SDE-polyHIPE	3.9	0.7	2.0	0.7	2.3	90.4	9.6
20PFPA-SDE-polyHIPE	3.7	0.6	1.8	1.5	2.1	90.3	19.7
26PFPA-SDE-polyHIPE	3.5	0.6	1.8	2.1	2.1	89.9	26.3
33PFPA-SDE-polyHIPE	3.3	0.6	1.7	2.8	1.9	89.7	33.3
43PFPA-SDE-polyHIPE	3.0	0.5	1.5	3.8	1.8	89.4	43.2

^aPFPA was added to a stock SDE mixture. ^bPFPA percentage in total monomer mixture

Table S2 summarises the morphological characteristics of the PFPA-containing polyHIPEs fabricated from the formulations shown in Table S1.

Table S2: Morphological Characteristics of PFPA-containing Polystyrene-based polyHIPEs

	<D> (μm) ^a	<d> (μm) ^b	<d>/<D>	Porosity (%)
SDE-polyHIPE	69	15	0.21	92
10PFPA-SDE-polyHIPE	46	10	0.22	93
20PFPA-SDE-polyHIPE	37	10	0.27	92
26PFPA-SDE-polyHIPE	33	10	0.30	92
33PFPA-SDE-polyHIPE	28	11	0.39	89
43PFPA-SDE-polyHIPE	/	5	/	85

^aAverage void diameter determined by SEM. ^bAverage interconnect diameter determined by mercury porosimetry. / = data unobtainable due to deformed nature of material.

Table S3 shows the measured surface atomic concentrations obtained from XPS survey spectra along with the calculated surface ester (PFPA) and carbohydrate concentrations.

Table S3: XPS Survey Data for 26PFPA-SDE-polyHIPE Reacted with Aminoethyl Glycosides.

	26PFPA-SDE-polyHIPE	Glu-SDE-polyHIPE	Gal-SDE-polyHIPE
Carbon	91.02	89.53	89.36
Fluorine	1.86	0.00	0.10
Oxygen	6.83	9.21	8.76
Calcium	0.30	0.31	0.65
Nitrogen	0.00	0.62	0.37
Silicon	0.00	0.32	0.68
Sulphur	0.00	0.00	0.09

Figure S1 shows the XPS high resolution F1s and N1s spectra for the 26PFPA-SDE-polyHIPE, Gal-SDE-polyHIPE and Glu-SDE-polyHIPE materials

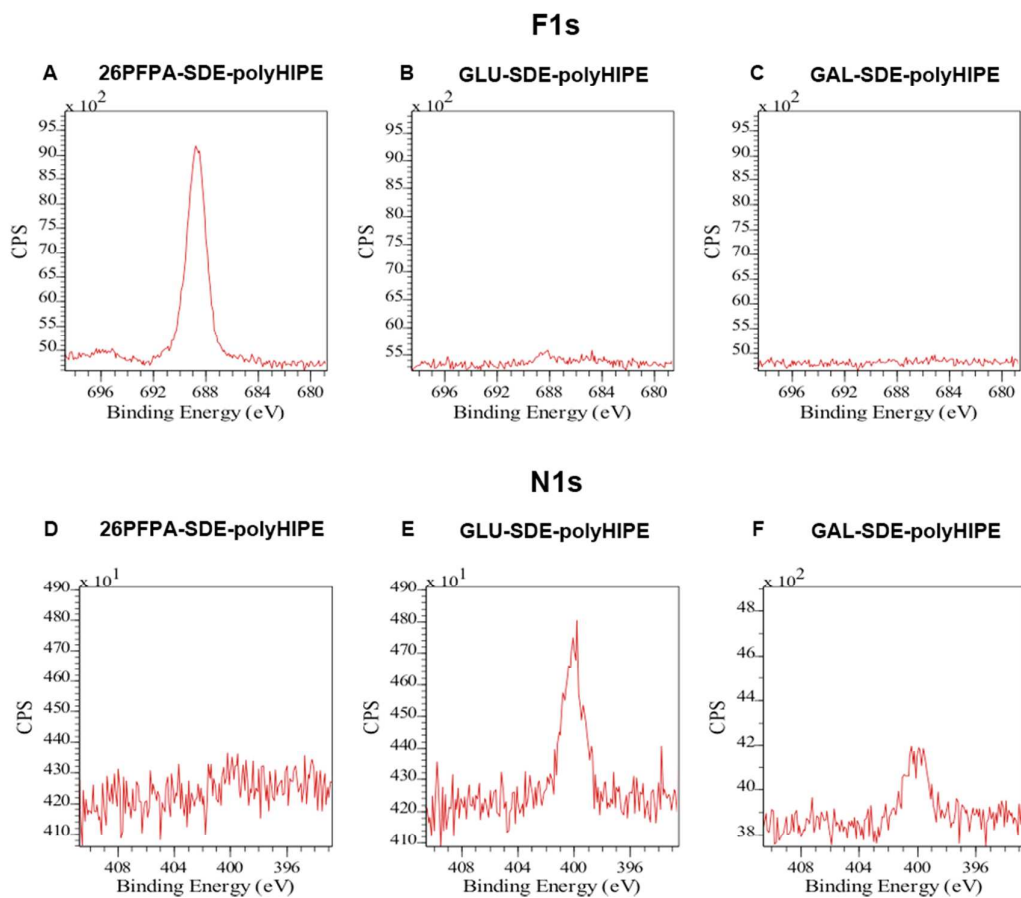


Figure S1. High resolution F1s (A-C) and N1s (D-F) spectra for 26PFPA-SDE-polyHIPE, Glu-SDE-polyHIPE and Gal-SDE-polyHIPE.