Electronic Supplementary Information

Conducting collagen-polypyrrole hybrid aerogels made from animal skin wastes

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Table S1. Conductivity of the 100/100 wt.% C/PPy aerogels with different oxidants and dopants.

S.No	Oxidant	Dopant	Conductivity (Scm^{-1})
1	$FeCl_3$	AQSA-Na	3.59×10^{-4}
2	$FeCl_3$	pTSA	1.34×10^{-4}
3	$FeCl_3$	DBSA	3.67×10^{-5}
4	$CuCl_2$	AQSA-Na	2.35×10^{-5}
5	$CuCl_2$	pTSA	3.93×10^{-6}
6	$CuCl_2$	DBSA	8.62×10^{-7}

Table S2. Elemental compositions of C/PPy aerogels analyzed using the CHNS technique.

Sample	**% C**	**% H**	**% N**	**% S**
100/0 wt.% C/PPy	42.7 ± 1.6	6.5 ± 0.7	15.5 ± 0.7	0.6 ± 0.1
100/25 wt.% C/PPy	50.7 ± 0.4	5.7 ± 0.1	13.3 ± 1.2	5.5 ± 0.7
100/50 wt.% C/PPy	52.1 ± 1.3	5.1 ± 0.3	12.2 ± 0.4	5.9 ± 1.6
100/75 wt.% C/PPy	53.2 ± 2.3	5.0 ± 0.1	11.4 ± 2.0	6.1 ± 0.1
100/100 wt.% C/PPy	54.9 ± 0.8	4.1 ± 0.5	10.4 ± 0.4	6.3 ± 0.2
0/100 wt.% C/PPy	59.5 ± 1.0	3.1 ± 0.1	9.1 ± 0.1	7.4 ± 0.6

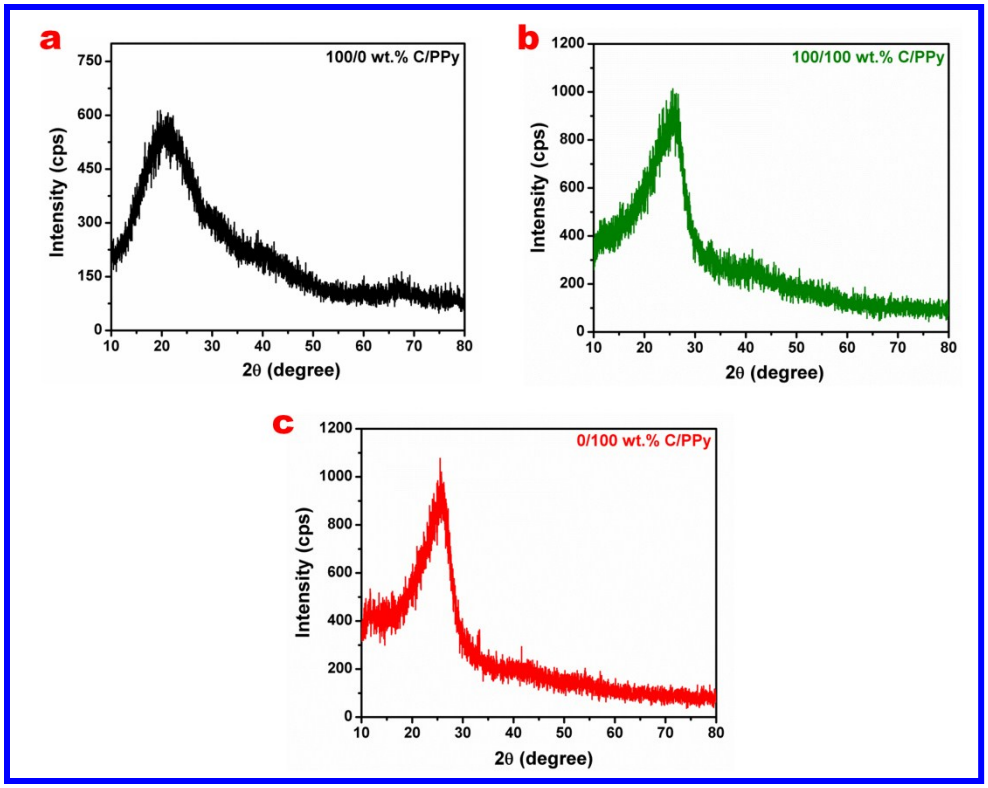

Fig. S1. XRD patterns of (a) 100/0, (b) 100/100 and (c) 0/100 wt.% C/PPy aerogels.

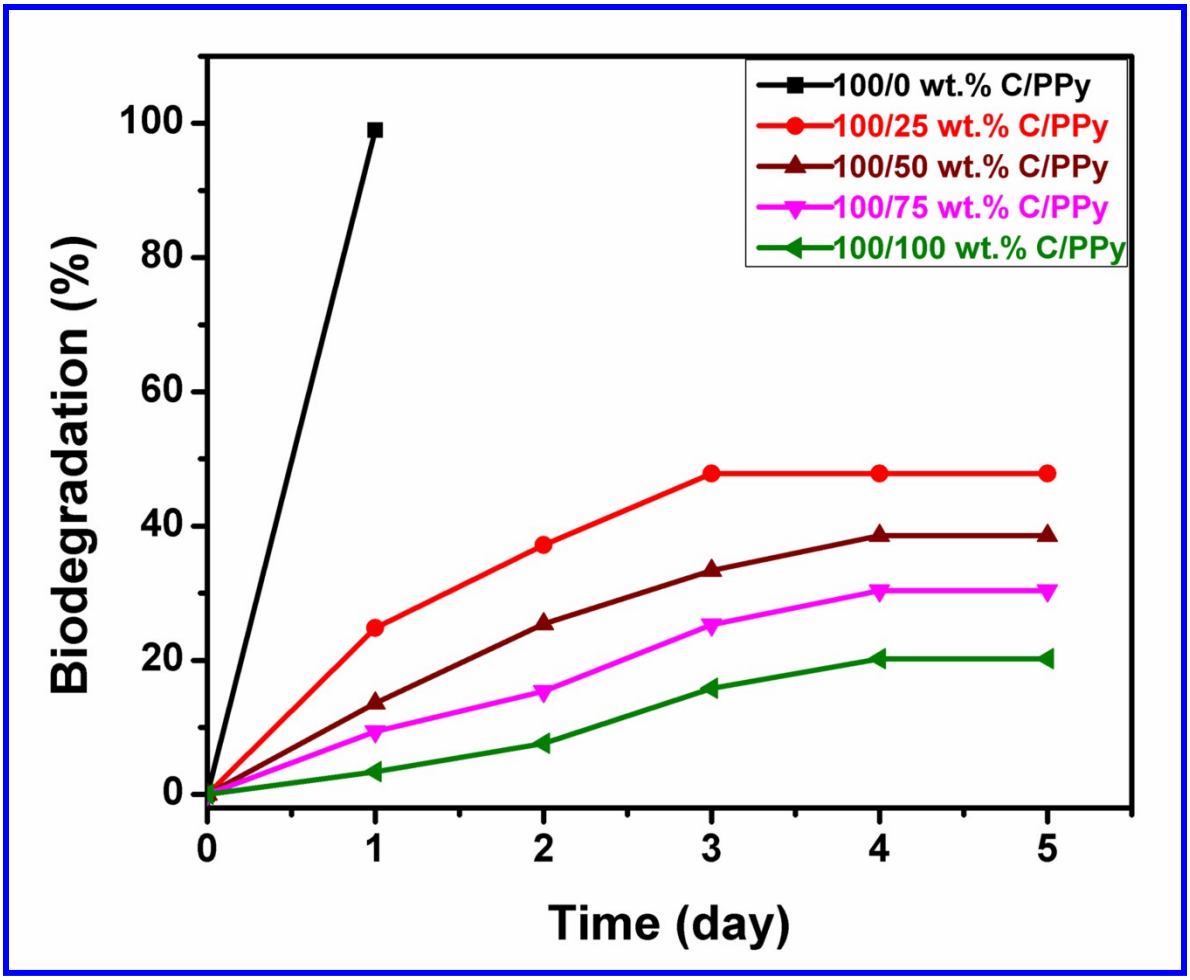

Fig. S2. *In vitro* biodegradation patterns of 100/0, 100/25, 100/50, 100/75 and 100/100 wt.% C/PPy aerogels.