Electronic Supplementary Material (ESI) for RSC Advances.

Renewable Resource-Based Polymeric Microencapsulation of Natural Pesticide and its Release Study: An Alternative Green Approach

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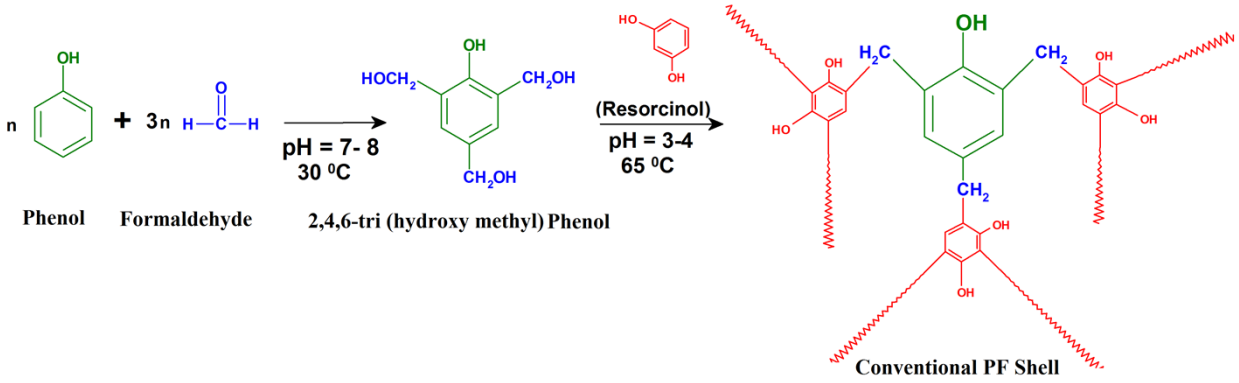

Figure S1: Reaction scheme for non-biobased phenol–formaldehyde (PF) microcapsules.

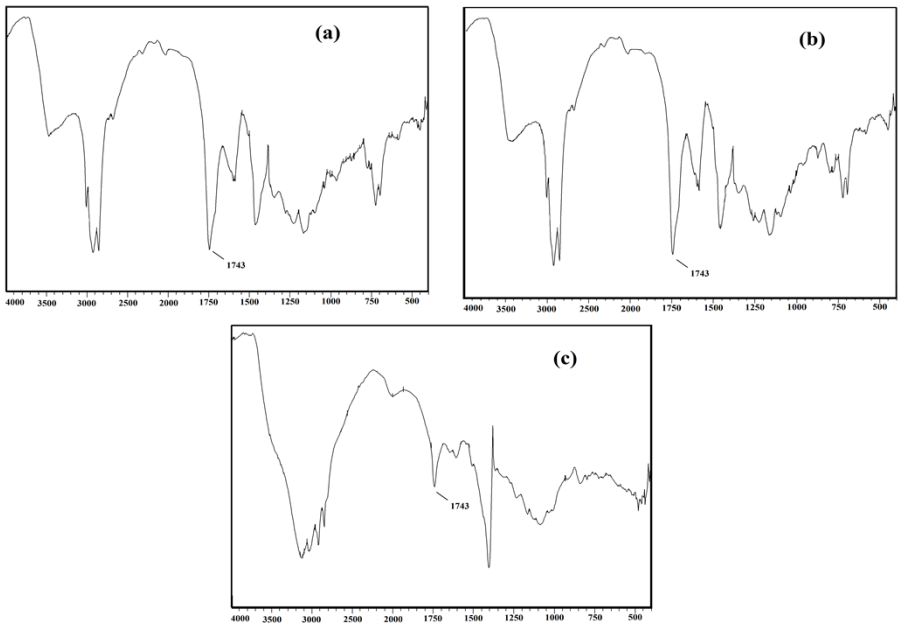

Figure S2: FT-IR spectra: (a) biobased novel microcapsule; (b) conventional PF microcapsules; and (c) core.

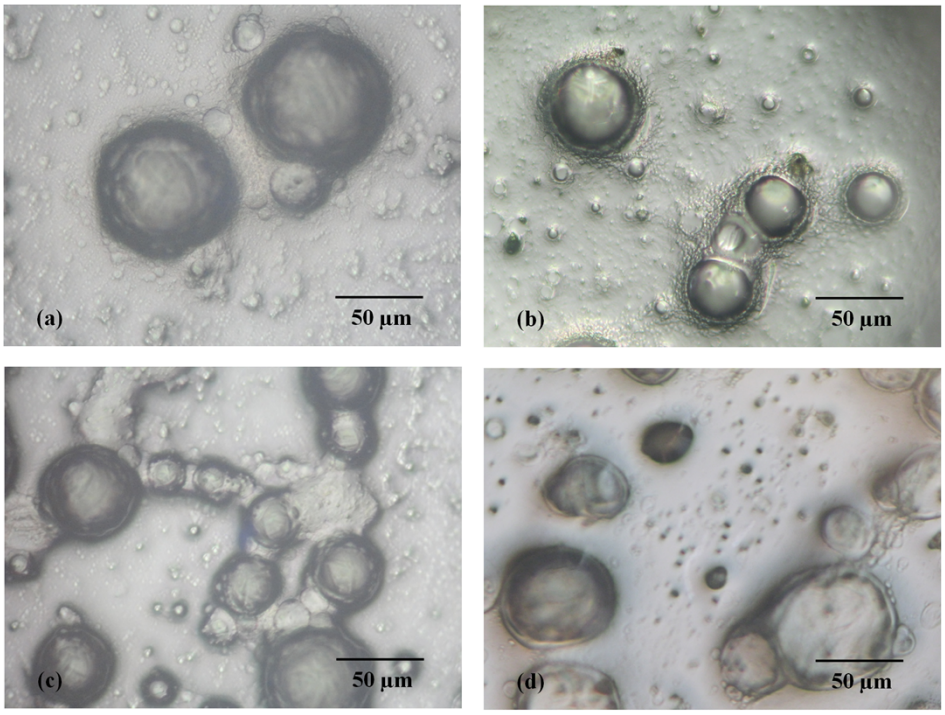

Figure S3: Optical images of biobased microcapsules exposed to 50 °C for (a) 00 h, (b) 48 h, (c) 96 h and (d) 144 h .

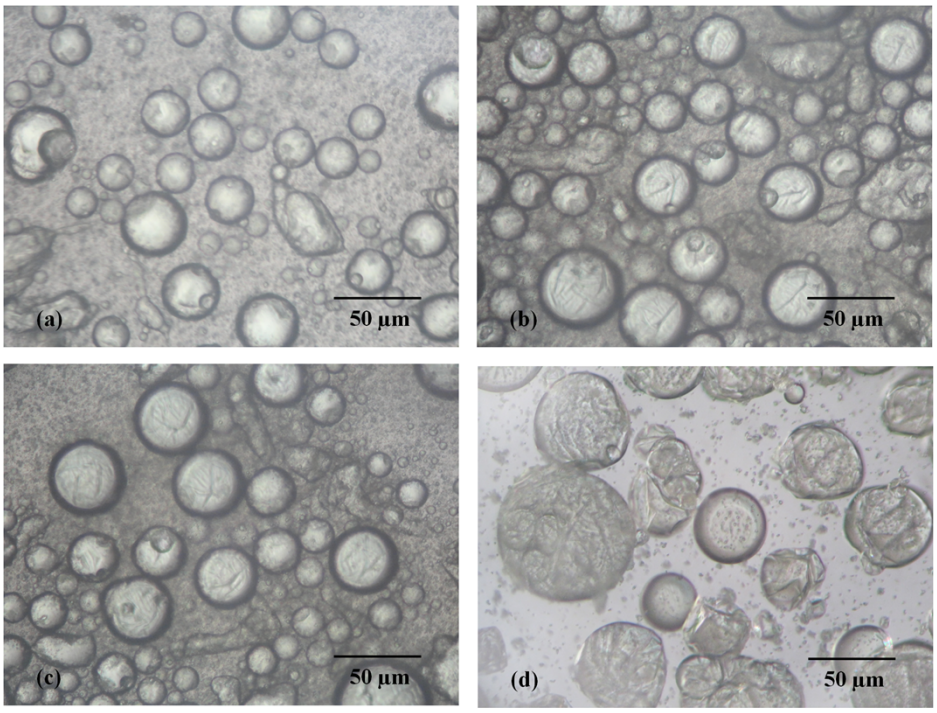

Figure S4: Optical images of non-biobased PF microcapsules exposed to 50 °C for (a) fresh 00 h (b), 48 h (c), 96 h and (d) 144 h.

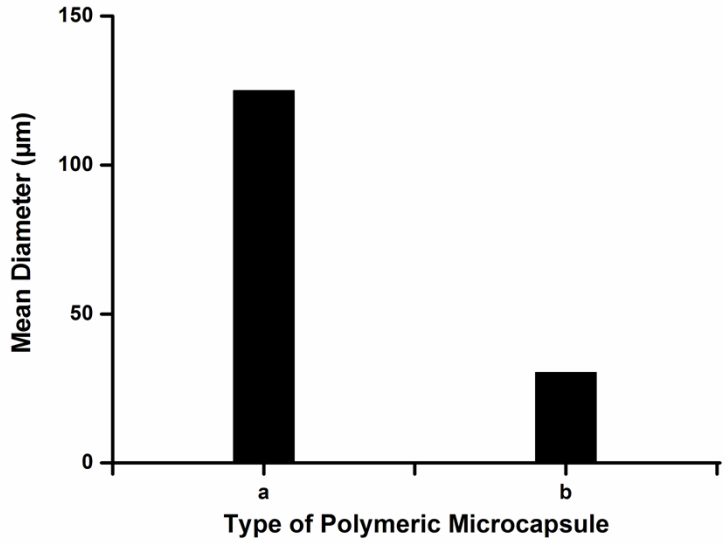

Figure S5: Graphical presentation of mean particle size: (a) biobased; and (b) non-biobased PF microcapsules.

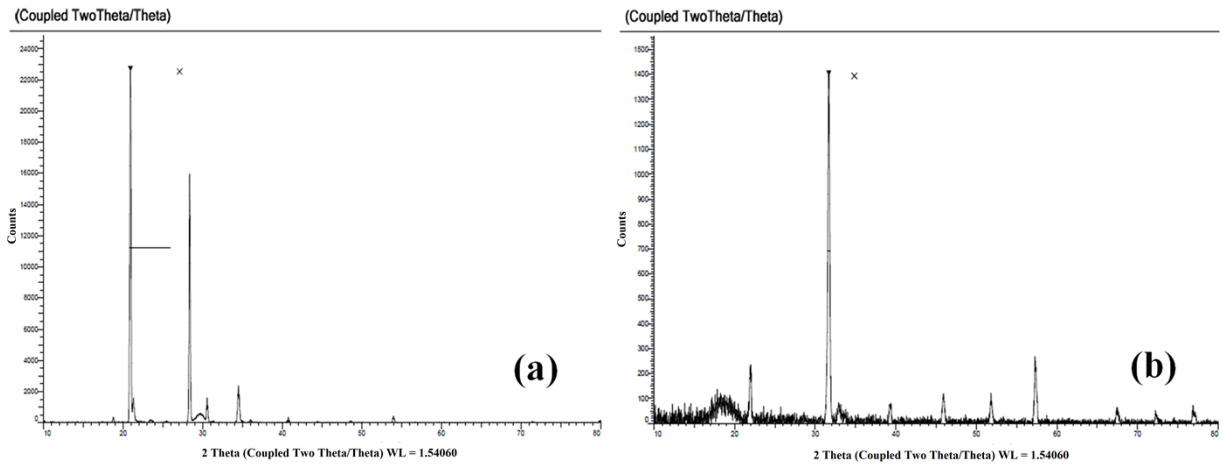

Figure S6: XRD graph: (a) biobased; and (b) non-biobased microcapsules.

Table SI Release rate of core from biobased and non-biobased microcapsules

Time (h)	Biobased Microcapsules	Non-biobased PF Microcapsules
	Release Rate (%)	Release Rate (%)
05	12.43	20.01
10	15.98	28.98
15	19.45	36.61
20	24.36	45.94
25	29.92	53.76
30	34.89	61.23
35	39.91	68.44
40	45.67	74.17
45	51.23	80.19
50	55.65	85.39

Table SII UV Absorbance data of standard solution of a biopestcide

Karanja mg/100mL xylene	**Absorbance (nm)**		
	300-320	**230-275**	**335-400**
0.10	0.0400	0.0370	0.0387
0.50	0.0200	0.1854	0.1937
1.00	0.4000	0.3708	0.3875
2.50	1.0000	0.9270	0.9687
5.00	2.0000	1.8541	1.9375

Table SIII UV Absorbance data for the extracted core from microcapsules at various time intervals

Time (h)	Absorbance for Biobased Novel Microcapsules (nm)			Absorbance for Non-biobased PF Microcapsules (nm)		
	300-320	**230-275**	**335-400**	**300-320**	**230-275**	**335-400**
05	0.1193	0.1106	0.1155	0.1920	0.1780	0.1860
10	0.1534	0.1422	0.1486	0.2782	0.2579	0.2695
15	0.1867	0.1731	0.1808	0.3514	0.3258	0.3404
20	0.2338	0.2168	0.2265	0.4410	0.4088	0.4272
25	0.2872	0.2662	0.2782	0.5160	0.4784	0.4999
30	0.3349	0.3105	0.3244	0.5878	0.5449	0.5694
35	0.3831	0.3551	0.3711	0.6570	0.6091	0.6364
40	0.4384	0.4064	0.4247	0.7120	0.6601	0.6897
45	0.4918	0.4559	0.4764	0.7698	0.7136	0.7457
50	0.5342	0.4952	0.5175	0.8197	0.7599	0.7941