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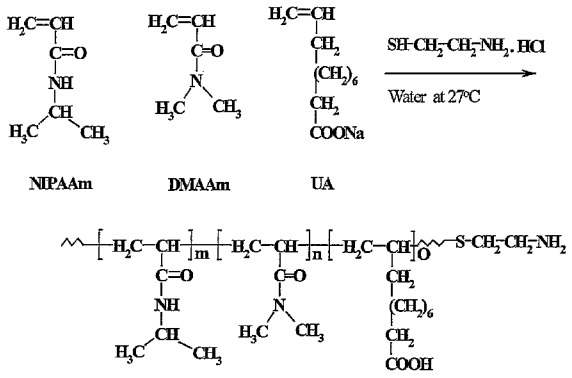
(54) Title: NOVEL TEMPERATURE AND PH SENSITIVE COPOLYMERS



Scheme

Polymers	NIPAAm/ DMAAm/ UA (feed molar ratio)	CTA (mol %)	M_w, M_n[1] (M_w/M_n)	Tg[2] (° C)	NIPAAm/ DMAAm/ (actual molar ratio)[3]	Acidity (mg NaOH/g)[4]	Thermal degradation (onset temp °C)[5]
Polymer I	4.00:1.00:0.5	0.2	30804,19185 (2.02)	133.0	4.17:1.00	8.0	437.8
Polymer II	3.75:1.25:0.5	0.4	9303, 5209 (1.78)	134.4	3.62:1.25	9.68	458.8
Polymer III	3.50:1.50:0.5	0.4	11090,6374 (1.73)	135.1	3.13:1.50:	8.80	437.8

[1] Determined by GPC; [2] Determined by DSC; [3] Estimated by ^{1}H NMR; [4] Estimated by acid-base titration; [5] Estimated by TGA

Table

(57) Abstract: The invention is directed to a copolymer comprising at least three types of monomeric units, said three types of monomeric units comprising: a temperature-sensitive unit; a hydrophilic unit, and a hydrophobic unit comprising at least one pH-sensitive moiety; wherein said hydrophobic monomeric unit is derived from a copolymerisable unsaturated fatty acid.

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