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Synthesis and characterization of silver nanoparticles embedded cellulose-gelatin based hybrid hydrogel: its utilization as dye degradation

Saruchi[a], Vaneet Kumar*[b] Diksha Bhatt [c], Sadanand Pandey*[d] and Ayman A. Ghfar[e]

[a]Department of Biotechnology, CT Institute of Pharmaceutical Sciences (CTIPS), CT Group of Institutions, Shahpur Campus Jalandhar, Punjab, India.

[b,c]School of Natural Science, CT University, Ludhiana, Punjab, India

[d]Department of Chemistry, College of Natural Science, Yeungnam University, 280 Daehak-Ro, Gyeongsan, Gyeongbuk, 38541, Republic of Korea

[e]Department of Chemistry, College of Science, King Saud University, P.O. Box 2455, Riyadh 11451, Saudi Arabia

***Corresponding Author: vaneet2106@gmail.com, sadanand.au@gmail.com**

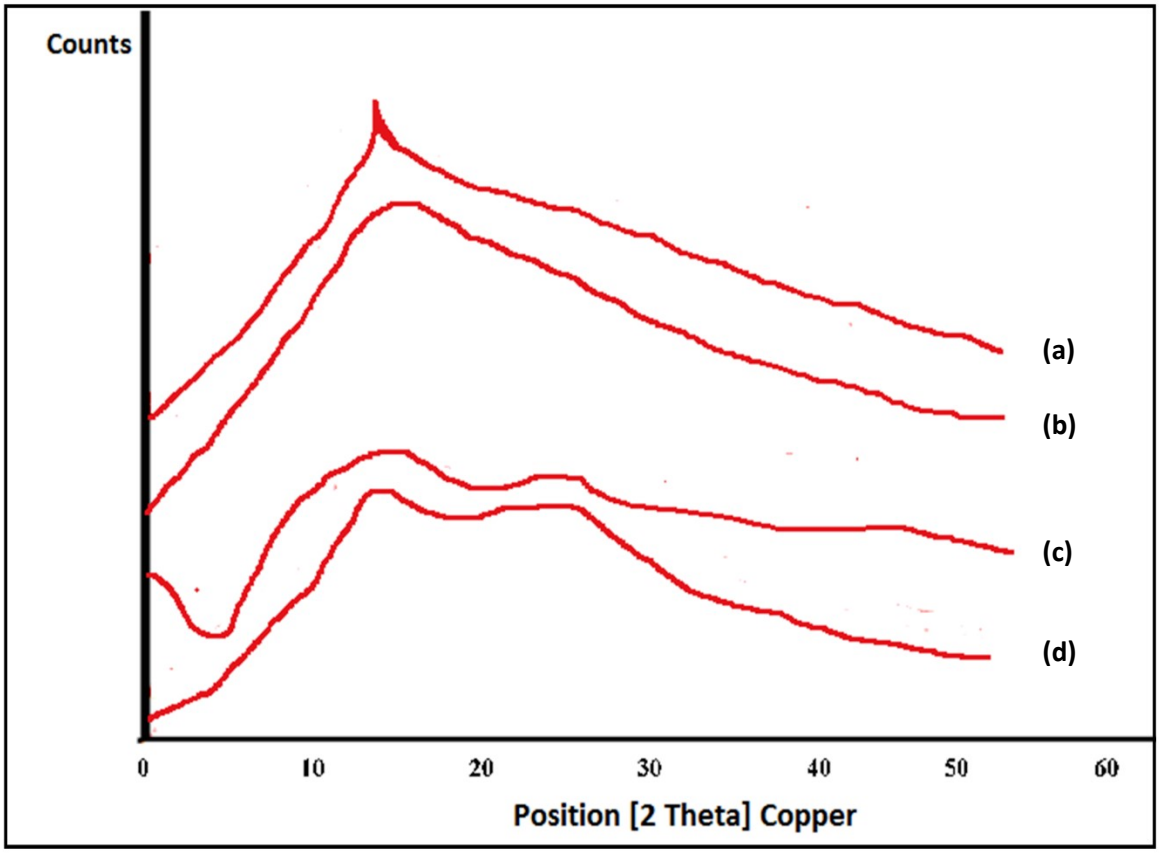
3.2.4.. Thermal Behavior

Table S1:Thermal behavior of cellulose, gelatin, cellulose-gelatin backbone and C-G-g-poly(AA)

Sample		TGA				DTA		DTG	
	IDT (°C)	I^{st} stage disintegration,° C (%wt. loss)	2^{nd} stage disintegration, °C (%wt. loss)	3^{rd} stage disintegration,° C (%wt. loss)	FDT, °C (Residue left %)	Exothermic peaks at different disintegration temperature (μV)		Disintegration temperature, °C (rate of wt. loss in mg/min)	
						I^{st} (°C)	2^{nd} (°C)	I^{st} (°C)	2^{nd} (°C)
Cellulose	211.4	210.9-372.4 (28.2)	576.5-601.3 (65.3)	-	610 (7.1)	224.3 (91.7)	586.7 (102.4)	285.6 (2.98)	596.5 (0.65)
Gelatin	225.2	224.8-418.4 (78)	-	-	417 (21)	369 (72)	-	312 (4.68)	-

Hybrid backbone	239.6	239.1-375.6 (58.4)	563.2-602.4 (38.1)	-	600 (2)	279.6 (89.9)	601.2 (101.9)	299.3 (0.59)	600.4 (0.58)
C-G-g-poly(AA)	262.4	260.3-300.4 (21.6)	372.6-512.8 (52.3)	535.6-646°C (24.2)	644 (2)	263.2 (79.8)	509.6 (20.1)	285.7 (0.62)	669.8 (0.49)

3.3.2. XRD analysis



Figs. S1a-d: XRDs of (a) Cellulose (b) Gelatin (c) Cellulose-gelatin hybrid backbone and (d) C-G-g-Poly(AA)

3.4. Stability of synthesized AgNPs

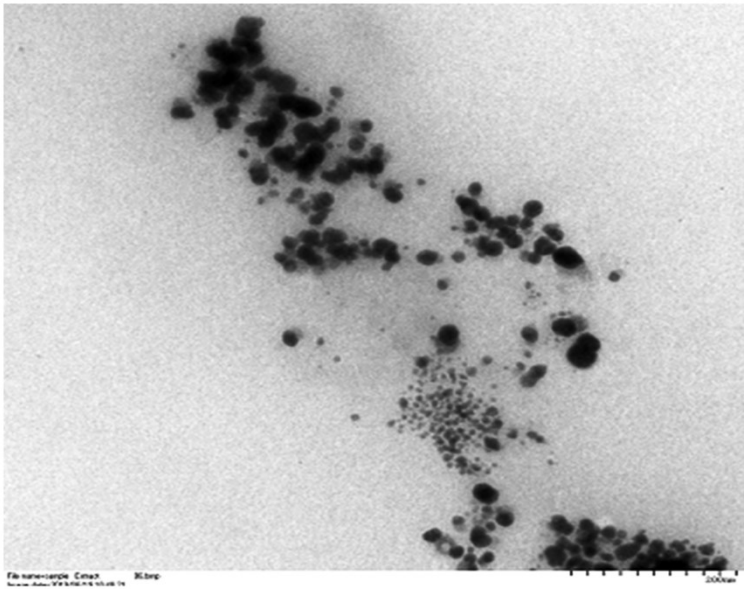
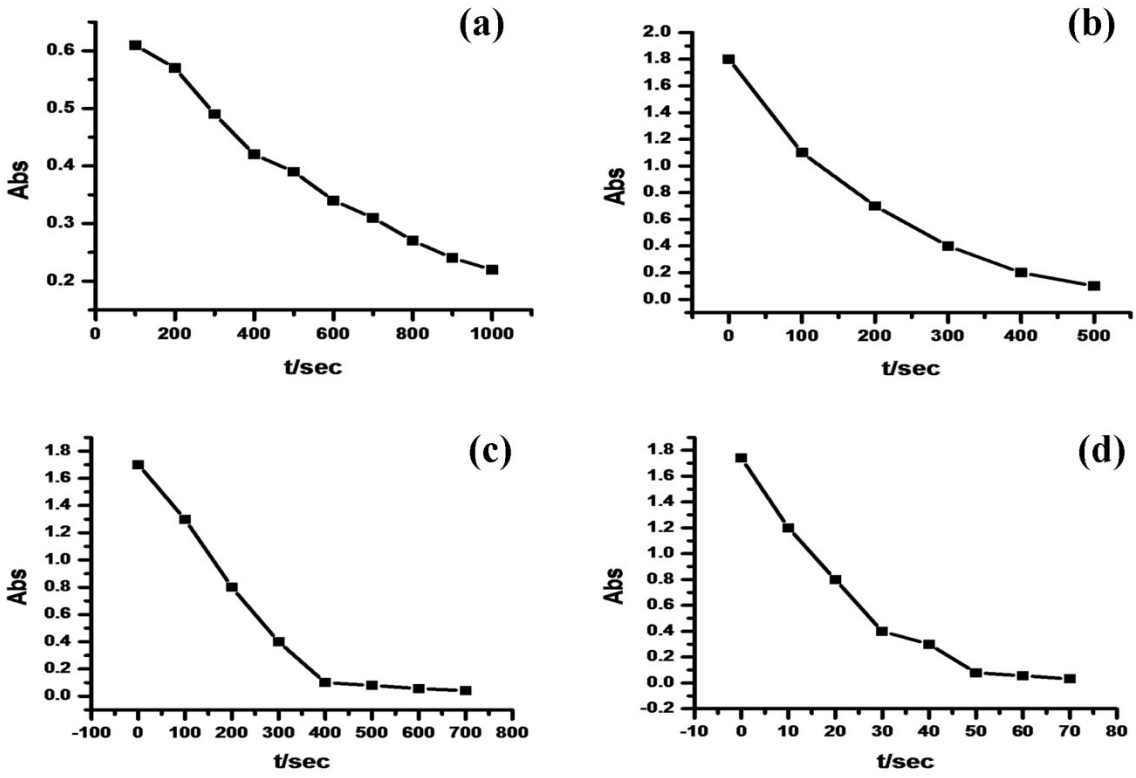


Fig. S2: TEM image of C-G-g-poly(AA)AgNPs after six months

3.5. Catalytic evaluation of synthesized AgNPs for dyes degradation



Figs. S3a-d: The absorbance of ethidium bromide and eosin dye versus time (a,c) in the presence of $NaBH_4$ and (b,d) in the presence of $NaBH_4$ and C-G- g-poly(AA)-AgNPs