

**Synthesis and Optical Properties of Guanosine 5'-monophosphate -
Mediated CdS Nanostructures: An Analysis of their Structure,
Morphology and Electronic Properties.**

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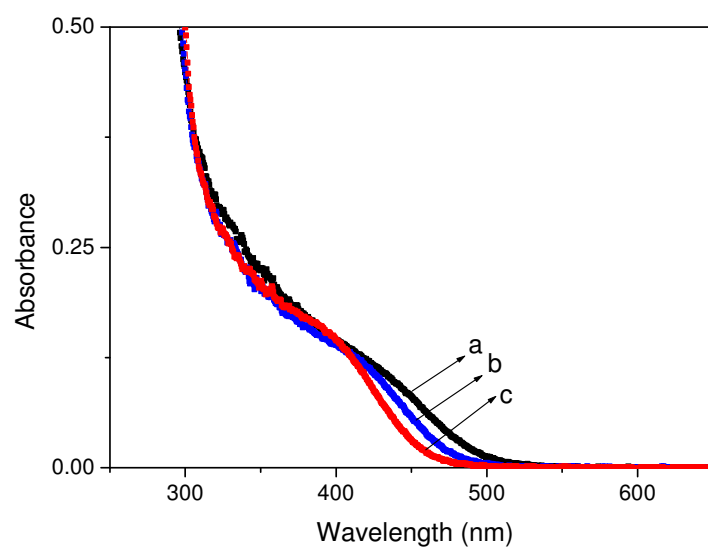


Figure S1A: Effect of the amount GMP [g/100ml] on electronic spectra of CdS: 0.001 (a), 0.007 (b), 0.015 (c)

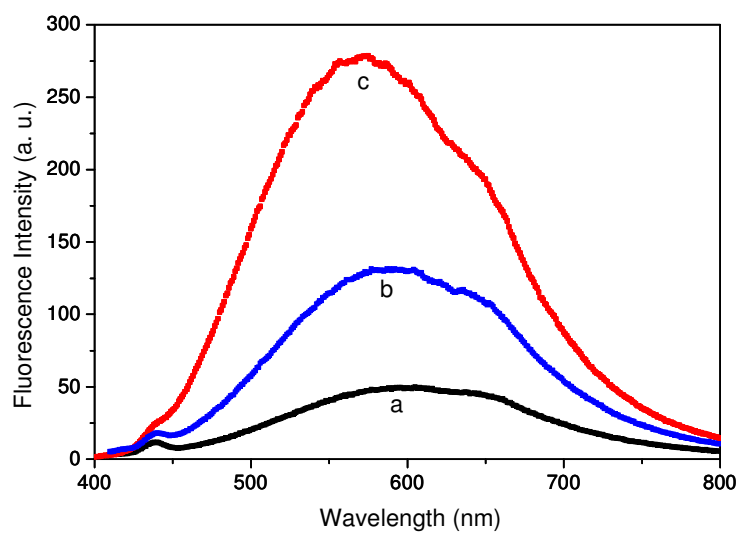
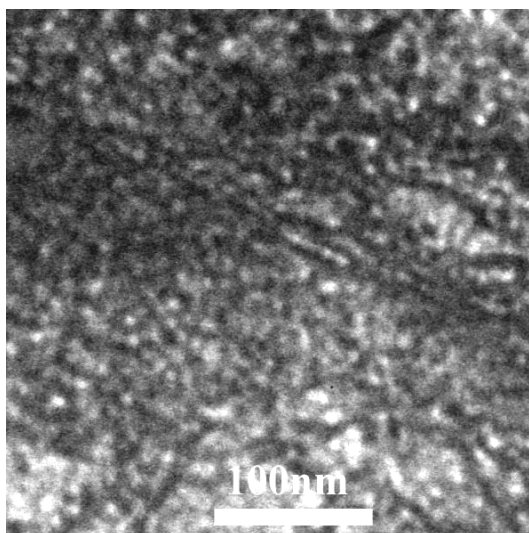
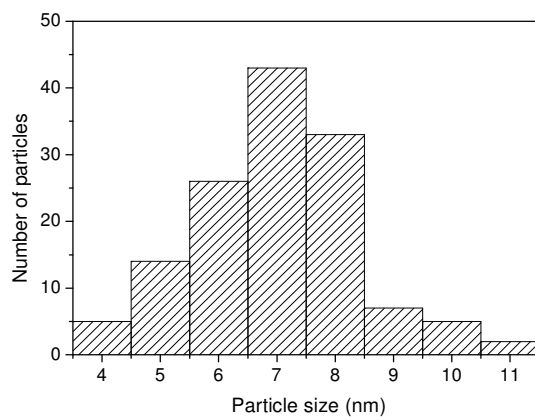


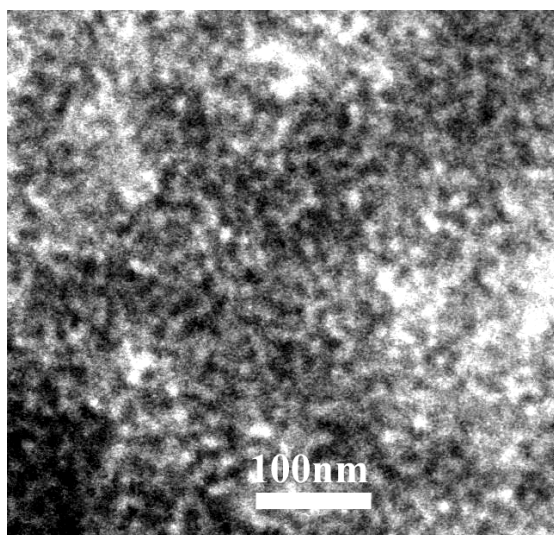
Figure S1B: Effect of the amount GMP [g/100ml] on fluorescence spectra of CdS: 0.001 (a), 0.007 (b), 0.015 (c). [λ_{ex} 380 nm]



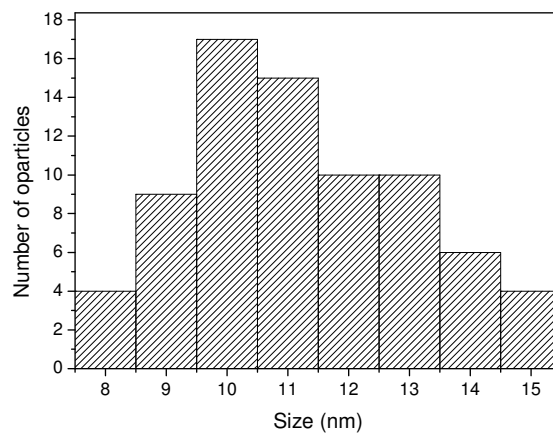
(A)



(A')

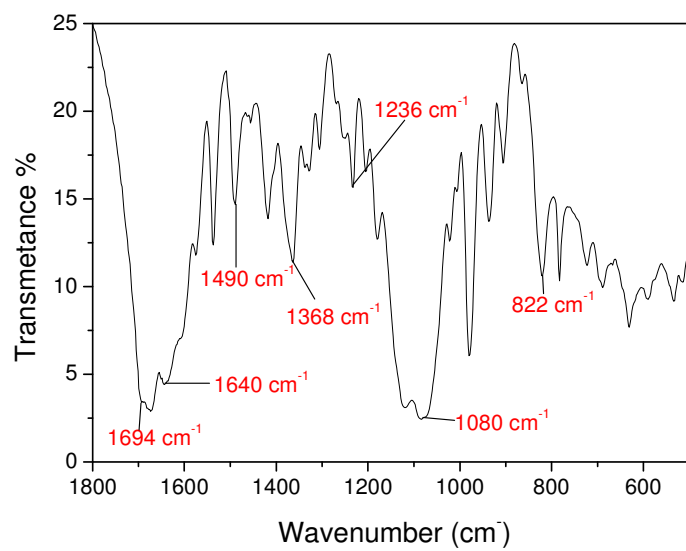


(B)

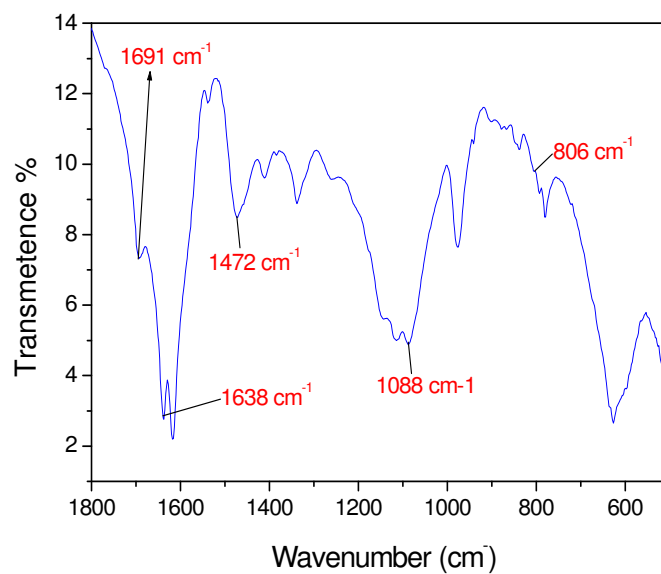


(B')

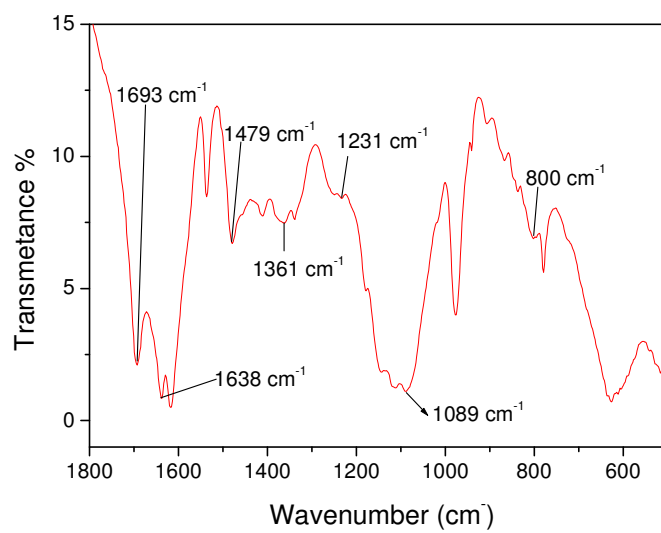
Figure S2: TEM images and particle size distribution of CdS capped by AMP (A, A') and UMP (B, B')



(A)



(B)



(C)

Figure S3: FTIR spectra of Na₂-GMP (A), Cd²⁺-GMP (B), CdS-GMP (C).

Table S1:IR spectral data of Na₂GMP, Cd²⁺-GMP and CdS-GMP

Group / Moiety	Na₂GMP (cm⁻¹)	Cd²⁺-GMP (cm⁻¹)	CdS-GMP (cm⁻¹)
>C=O	1694(sh)	1691(m)	1693(s)
-NH ₂	1640(w)	1638(s)	1638(s)
N-7-C-8+ C-8-H	1490(s)	1471(m)	1479(m)
Imidazole	1363(s)	-	1361(br)
Pyrimidine	1236 (s)	-	1231(sh)
PO ₃ ²⁻	1080(m)	1088(m)	1089(br)
P-O-5'-sugar	822(s)	806(sh)	800(br)

s-strong; m- medium; w- weak; sh- shoulder; br- broad.

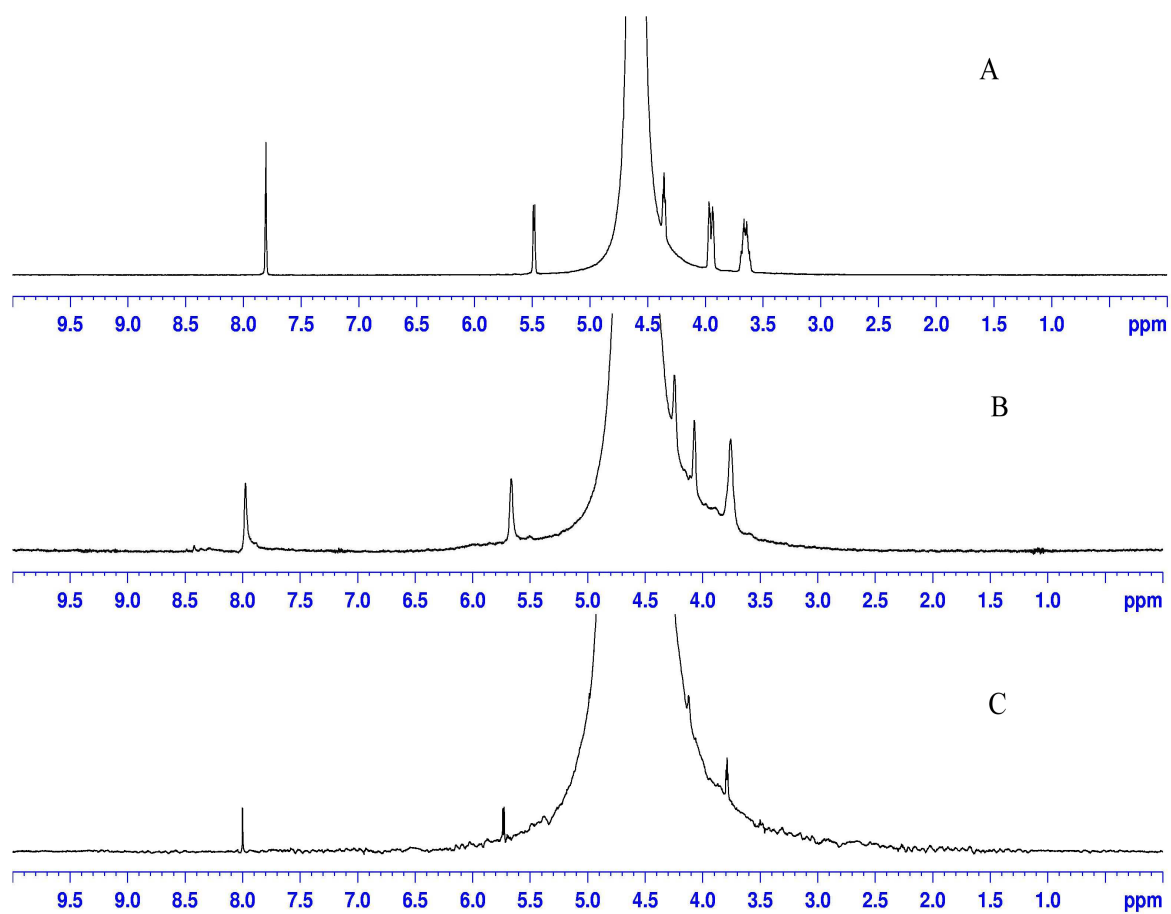


Figure S4: ^1H NMR spectra of Pure GMP (A), Cd^{2+} -GMP (B), CdS-GMP (C).

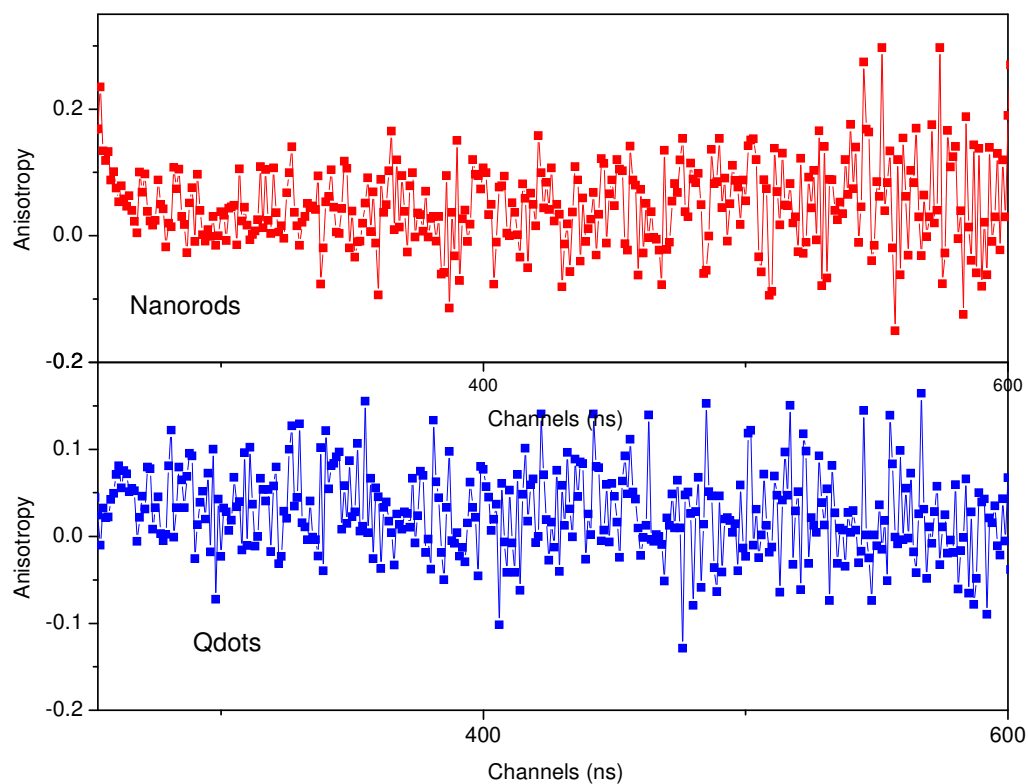


Figure S5: Anisotropy decay of GMP mediated CdS : Q-dots and nanorods. [λ_{ex} 375 nm ; λ_{em} 570 nm]. These traces indicate that the formation of nanorods upon aging enhances the value of anisotropy as the morphology is changed from Q-dots to nanorods.