Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C

Electronic Supplementary Information

Luminescence variation by rigidity control of acrylic composite materials

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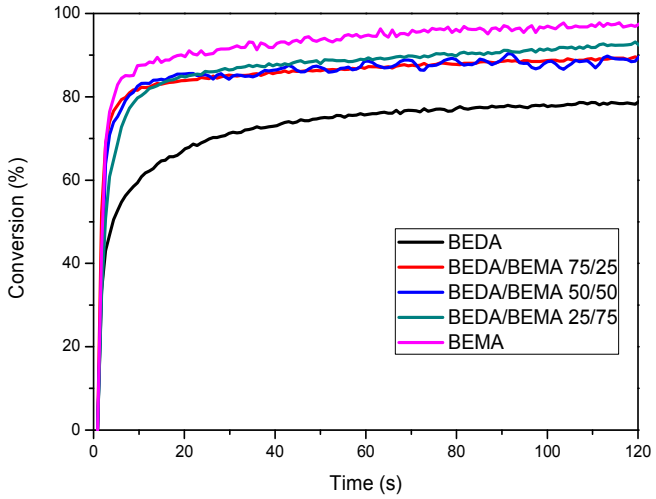
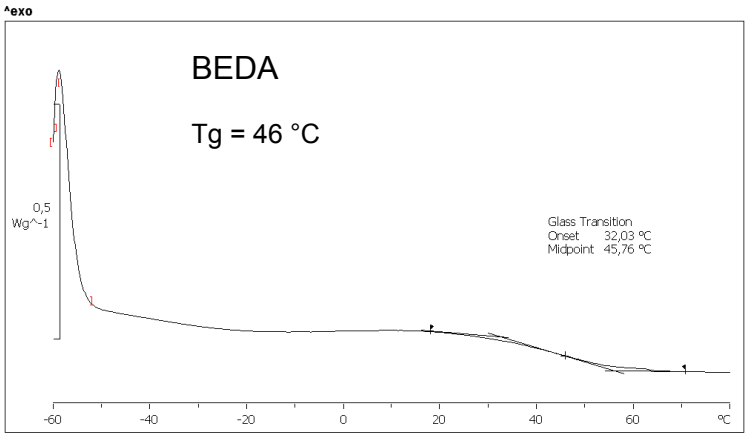
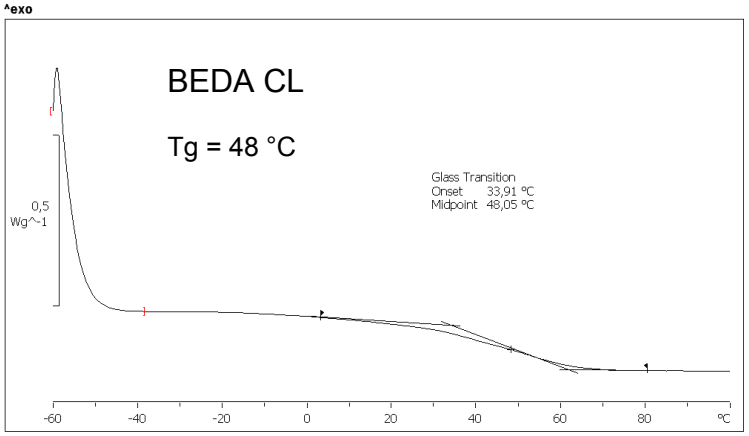
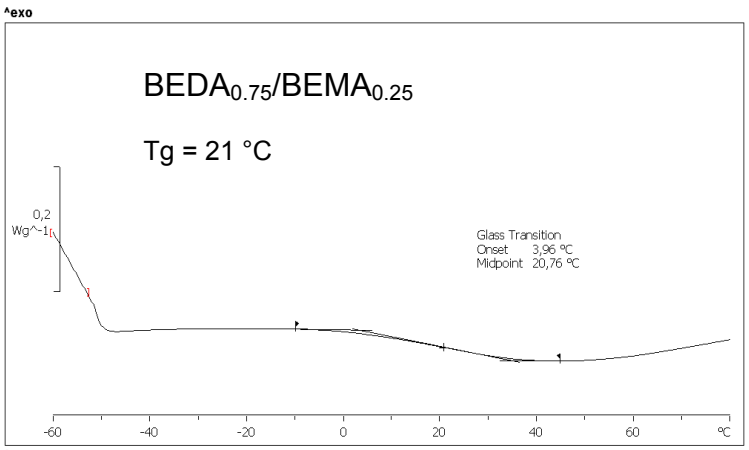
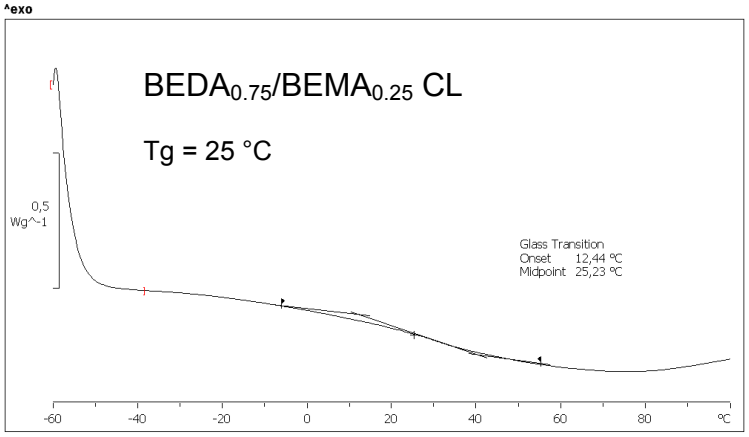


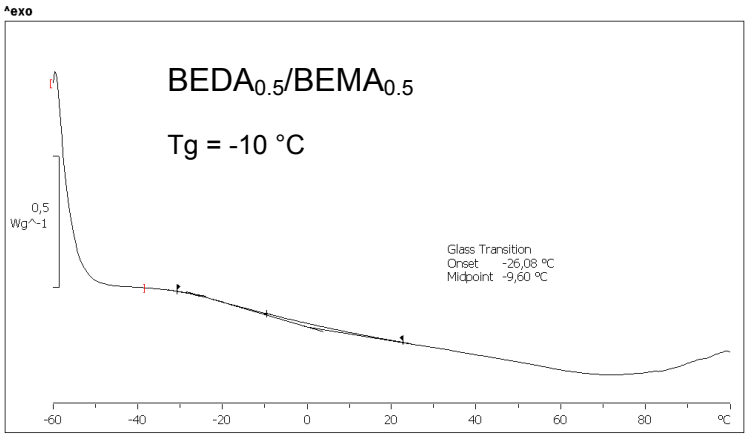
Figure S1. Conversion curves as a function of irradiation time for the UV-polymerization of the pure acrylic matrices ($BEDA_n/BEMA_{1-n}$; n = 1, 0.75, 0.5, 0.25, 0) performed in air.

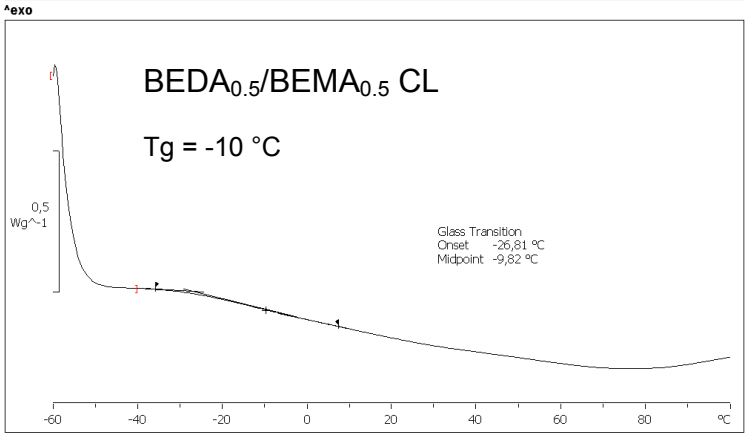


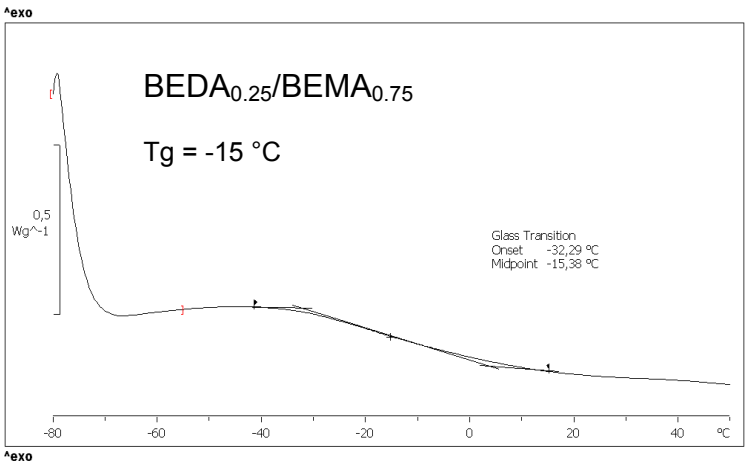


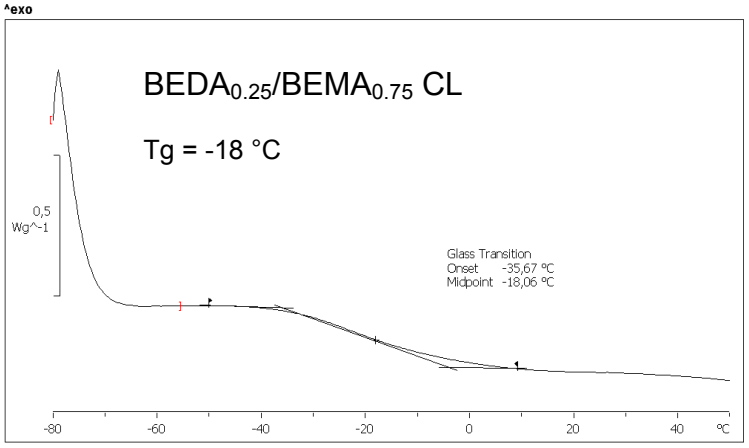












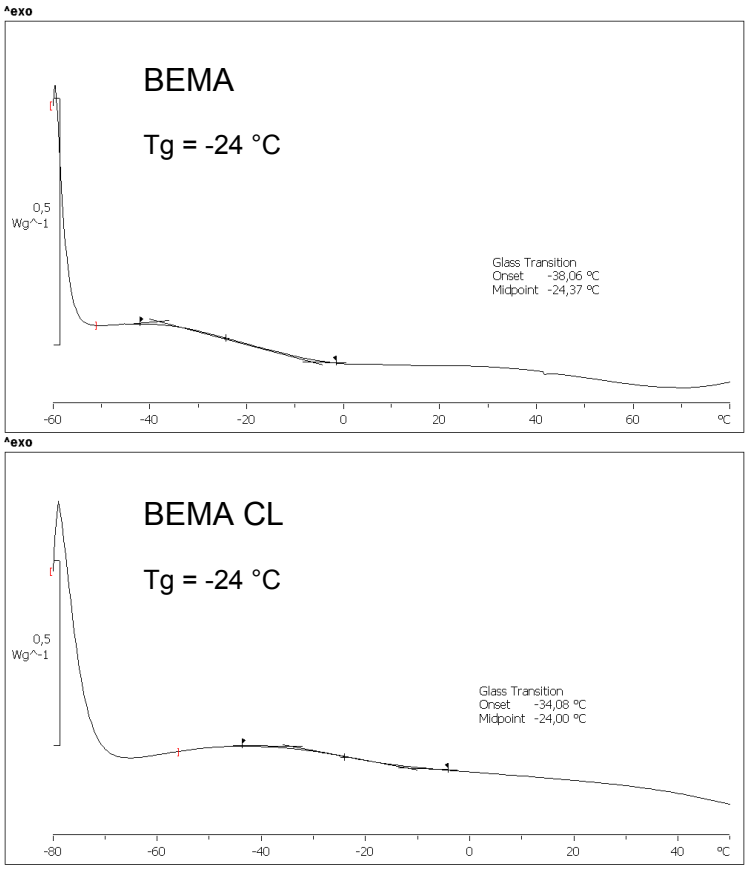


Figure S2. DSC curves of $BEDA_n/BEMA_{1-n}$ CL (n = 1, 0.75, 0.5, 0.25, 0) materials and of the corresponding pure resins.

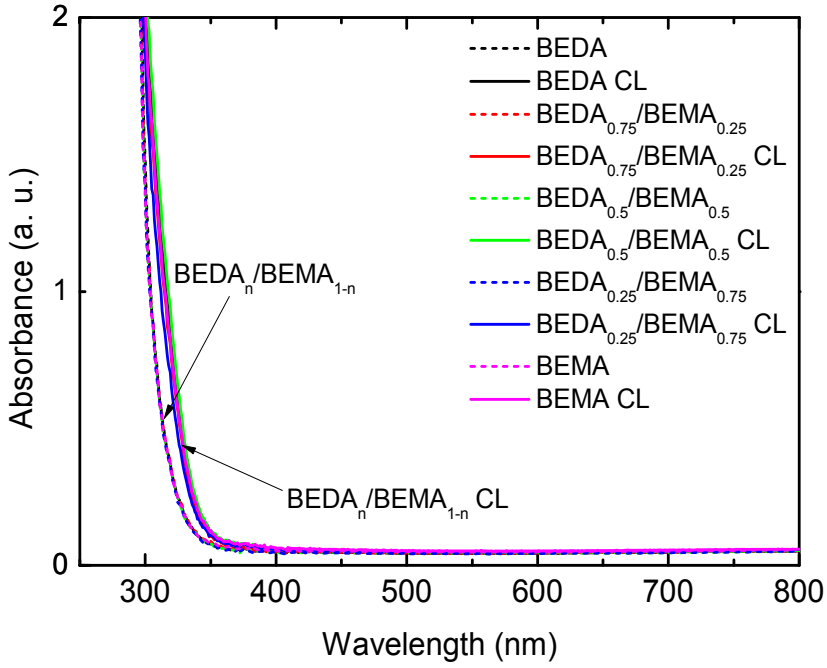


Figure S3. UV-Vis. spectra of $BEDA_n/BEMA_{1-n}$ CL (n = 1, 0.75, 0.5, 0.25, 0) materials and of the corresponding pure resins.

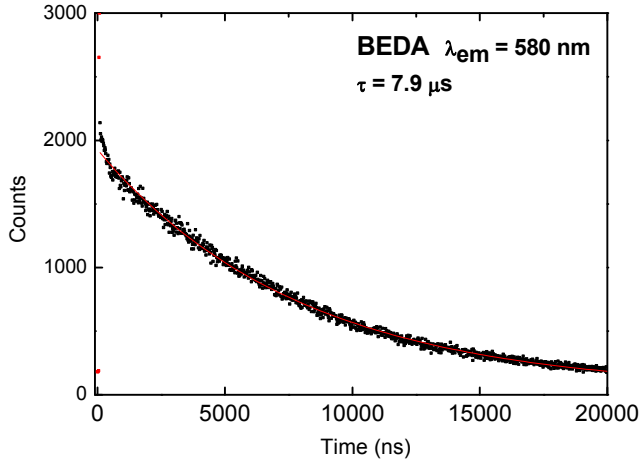
Table S1. XPS data for $[Cu_4I_4(PPh_2(CH_2)_2CH_3)_4]$ cluster in powder and for BEDA CL, $BEDA_{0.5}/BEMA_{0.5}$ CL, BEMA CL composites.

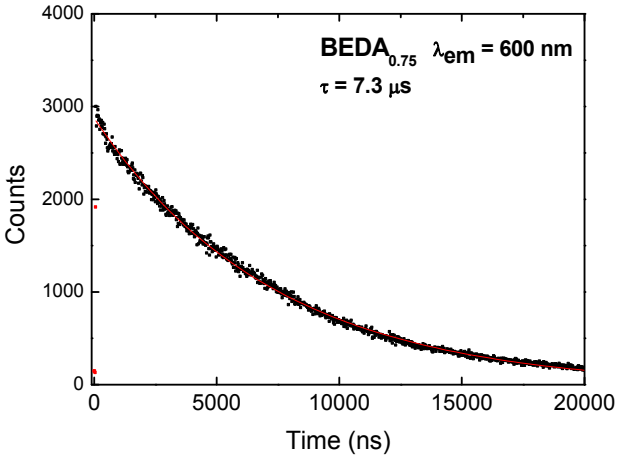
$[Cu_4I_4(PPh_2(CH_2)_2CH_3)_4]$					
	BE Values (eV)	BE Cu $2p_{3/2}$ corrected	Correction	BE Values corrected (eV)	Atomic %
Cu 2p3/2	931.17	933	1.83	933	4.5
I 3d5/2	617.66			619.49	5.5
P2p	128.99			130.82	4.2
O1s	530.91			532.75	3.8
C1s	282.84			284.67	82

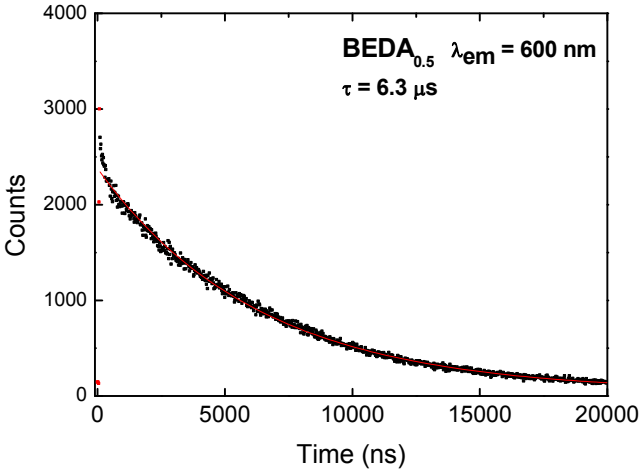
BEDA CL					
	BE Values (eV)	BE Cu $2p_{3/2}$ corrected	Correction	BE Values corrected (eV)	Atomic %
Cu 2p3/2	931.97	933	1.03	933	0.7
I 3d5/2	618.54			619.58	0.1
P2p	130.78			131.81	0.3
O1s	531.23			532.32	8.5
C1s	283.19			284.22	91

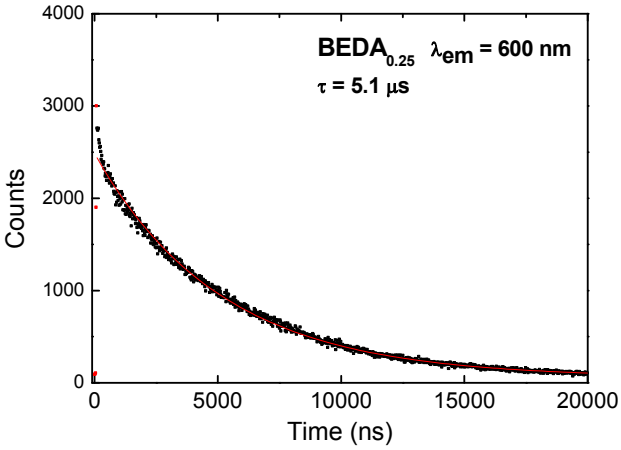
BEDA0.5/BEMA0.5 CL					
	BE Values (eV)	BE Cu $2p_{3/2}$ corrected	Correction	BE Values corrected (eV)	Atomic %
Cu 2p3/2	931.27	933	1.73	933	1.9
I 3d5/2	617.74			619.47	2.4
P2p	129.08			130.81	2.8
O1s	531.08			532.81	13
C1s	282.94			284.67	80

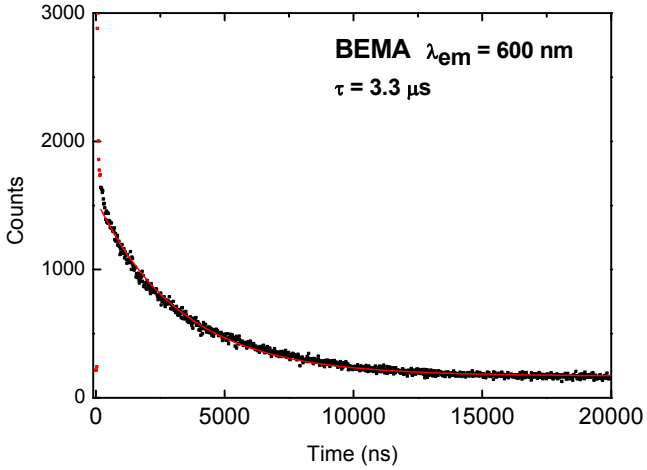
BEMA CL					
	BE Values (eV)	BE Cu $2p_{3/2}$ corrected	Correction	BE Values corrected (eV)	Atomic %
Cu 2p3/2	931.28	933	1.72	933	2.9
I 3d5/2	617.71			619.44	4.0
P2p	128.93			130.65	3.7
O1s	530.70			532.42	8.3
C1s	282.90			284.62	81











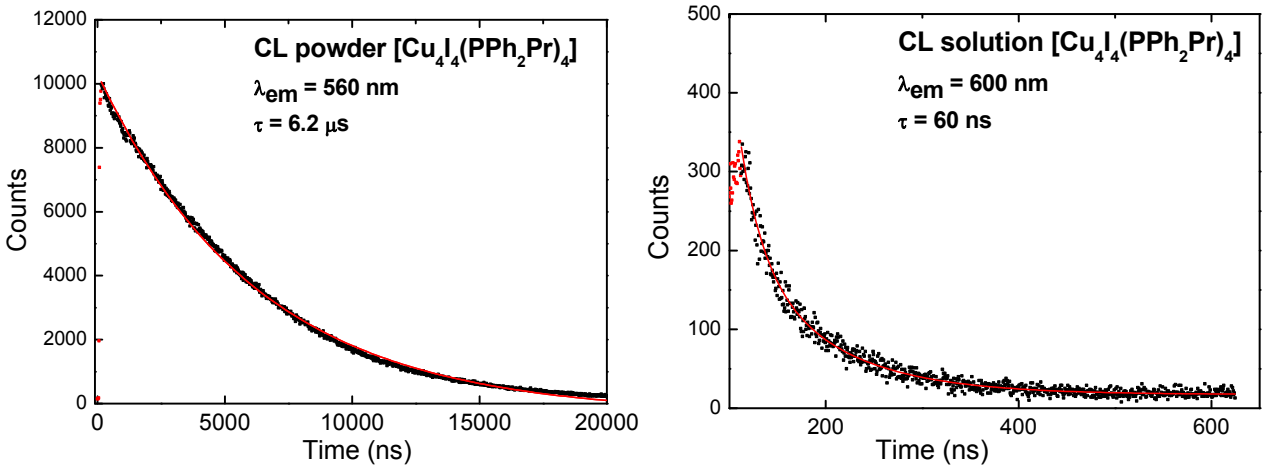


Figure S4. Emission lifetime curves and corresponding fits of $BEDA_n/BEMA_{1-n}$ CL (n = 1, 0.75, 0.5, 0.25, 0) materials, of the cluster in powder and dissolved in dichloromethane at 290 K. All first points after the excitation are not considered for the fitting (in red).

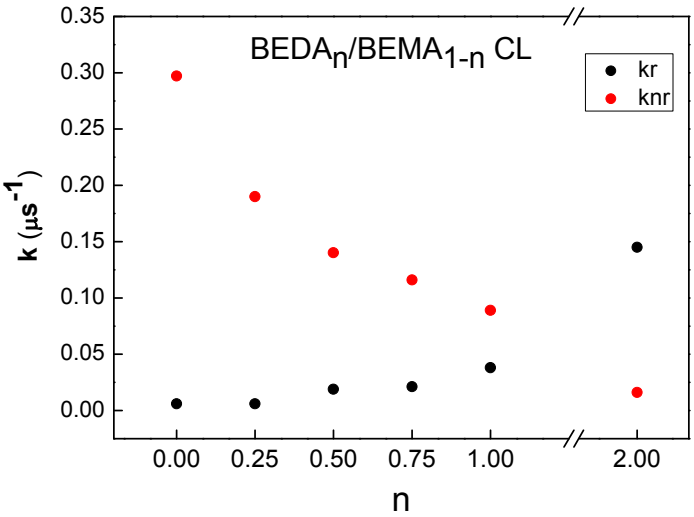


Figure S5. Radiative (k_r) and non-radiative (k_{nr}) rate constants calculated from $\Phi = (k_r/(k_r+k_{nr})) = k_r\tau$ for the $BEDA_n/BEMA_{1-n}$ CL (n = 1, 0.75, 0.5, 0.25, 0) materials. The values for the cluster in powder are also reported at the arbitrary value of n = 2.