Electronic Supplementary Material (ESI) for RSC Advances.

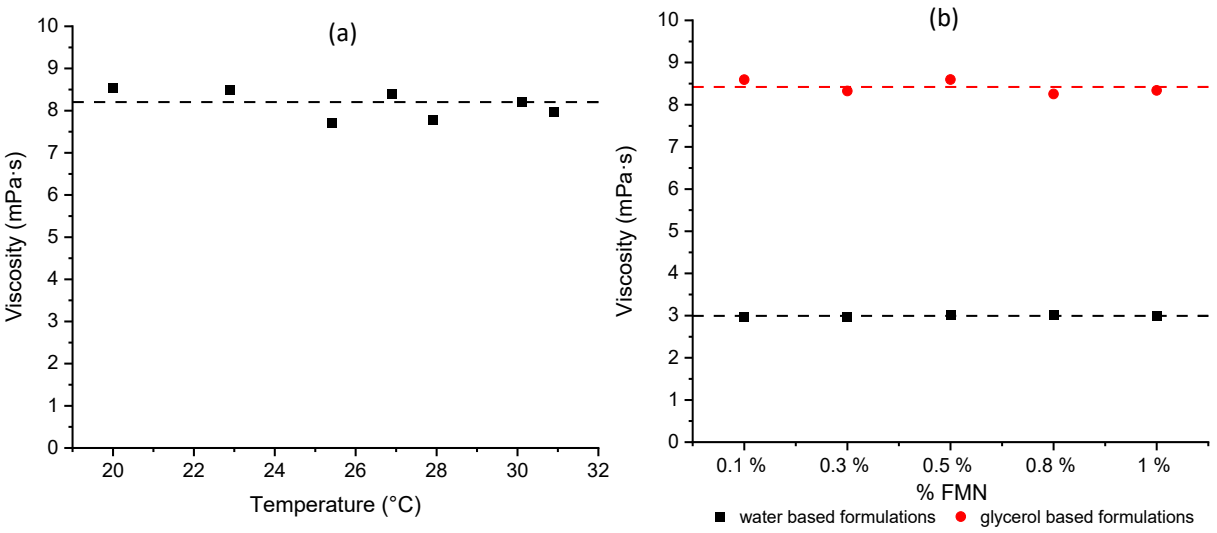


Figure SI 1: Rheological properties of FMN ink formulations: (a) viscosity of 0.1% FMN (glycerol-based) measured in the temperature range from 20 to 32 ˚C (b) viscosity of glycerol-based and water-based formulations at 20 ˚C

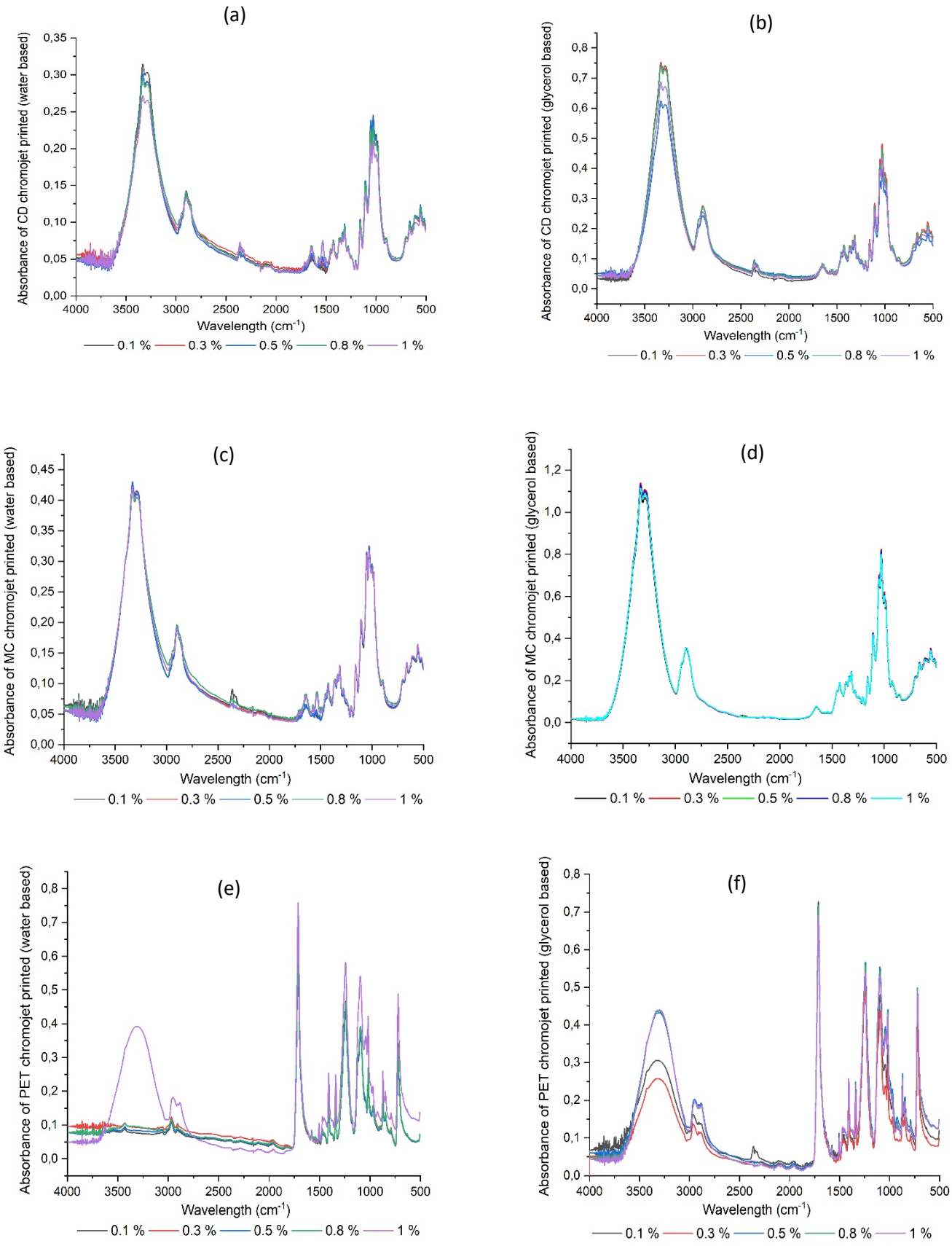


Figure SI 2: FTIR of chromojet printed textile (a), (b) CD printed (c), (d) MC printed, (e), (f) PET printed

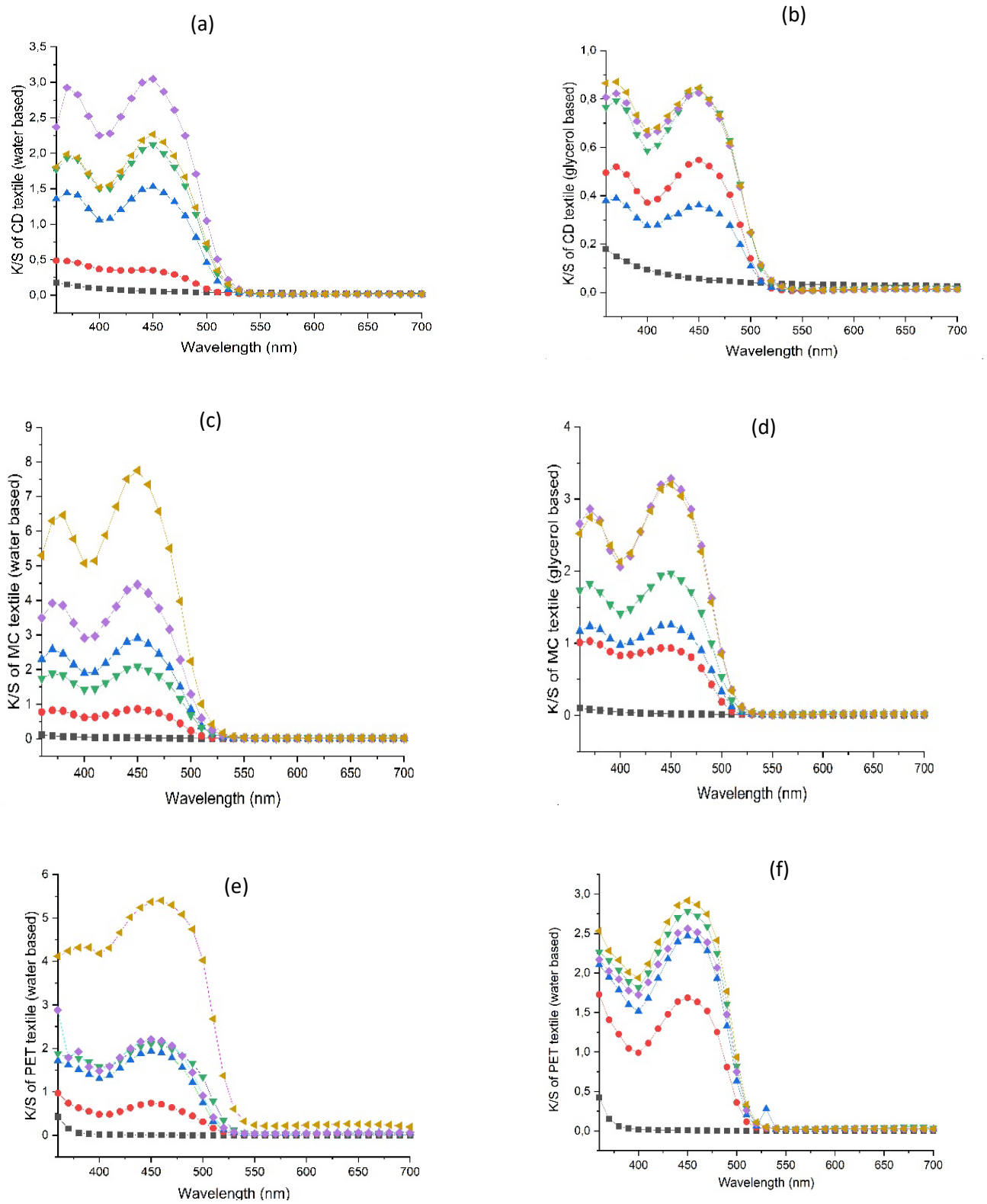
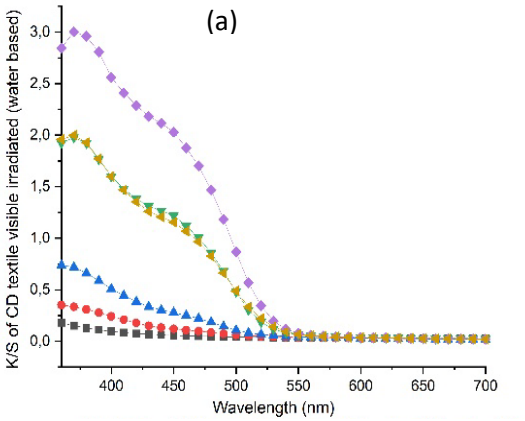
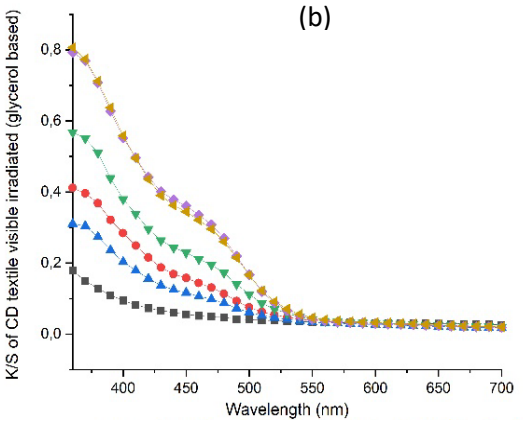
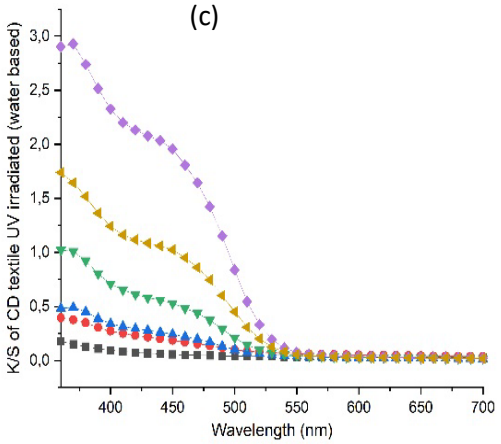
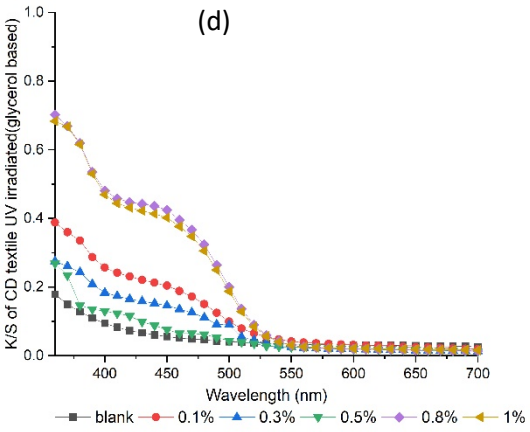


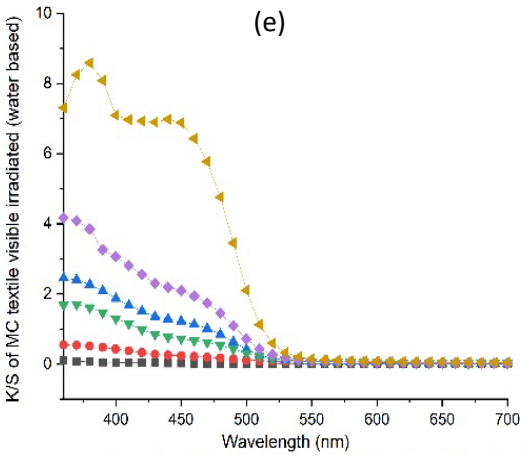
Figure SI 3: K/S values of chromojet printed textiles, CD water based (a) CD glycerol based (b), MC water based (c) and MC glycerol based (d), PET water based (e) and PET glycerol based (f).

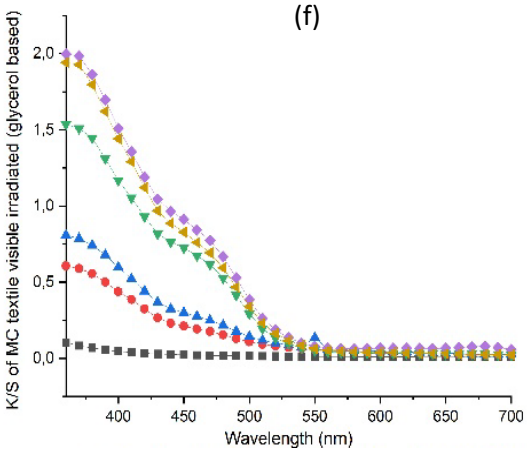

(a)
K/S of CD textile visible irradiated (water based)
Wavelength (nm)


(b)
K/S of CD textile visible irradiated (glycerol based)
Wavelength (nm)


(c)
K/S of CD textile UV irradiated (water based)
Wavelength (nm)


(d)
K/S of CD textile UV irradiated(glycerol based)
Wavelength (nm)
blank
0.1%
0.3%
0.5%
0.8%
1%


(e)
K/S of MC textile visible irradiated (water based)
Wavelength (nm)


(f)
K/S of MC textile visible irradiated (glycerol based)
Wavelength (nm)

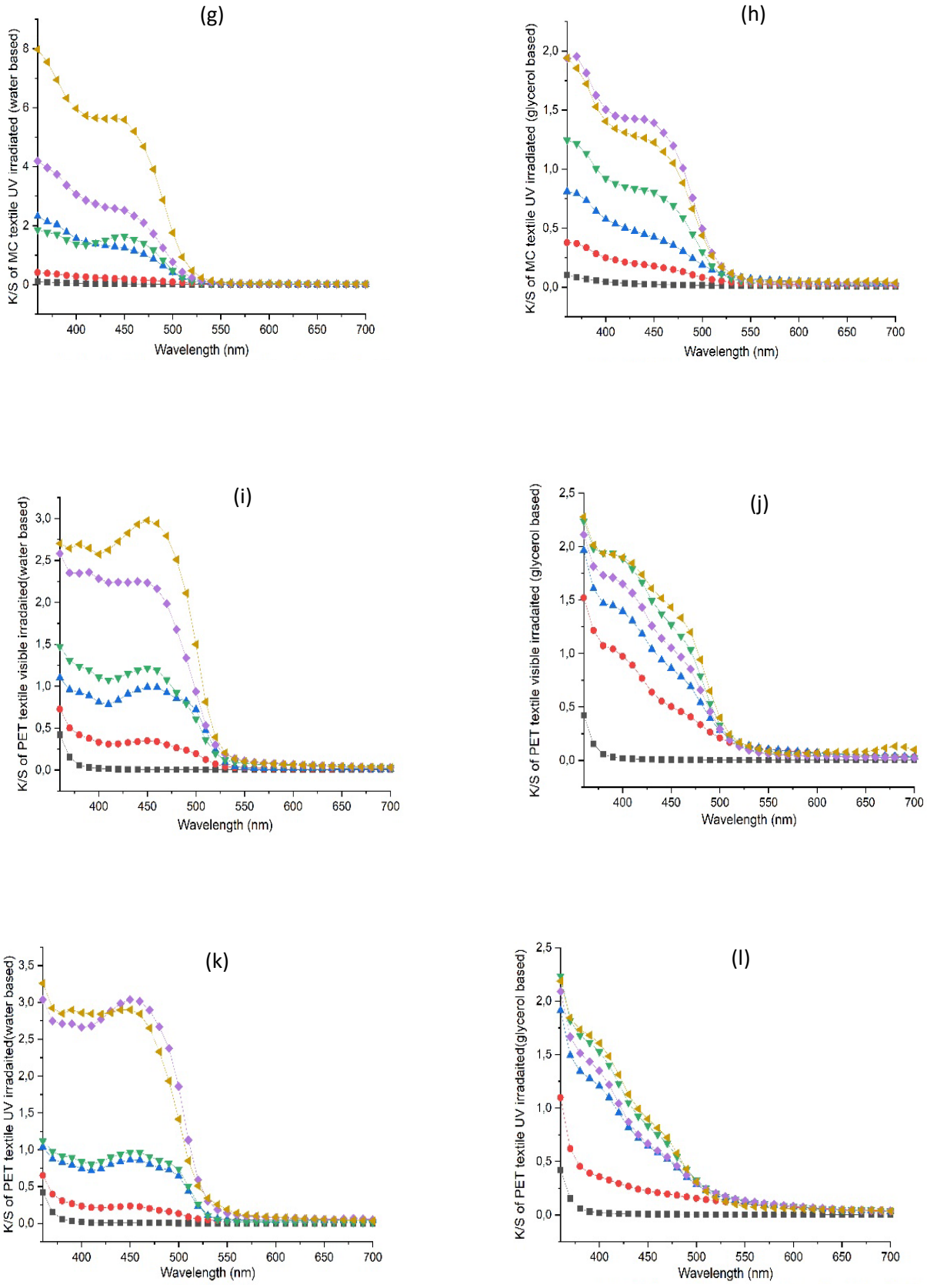
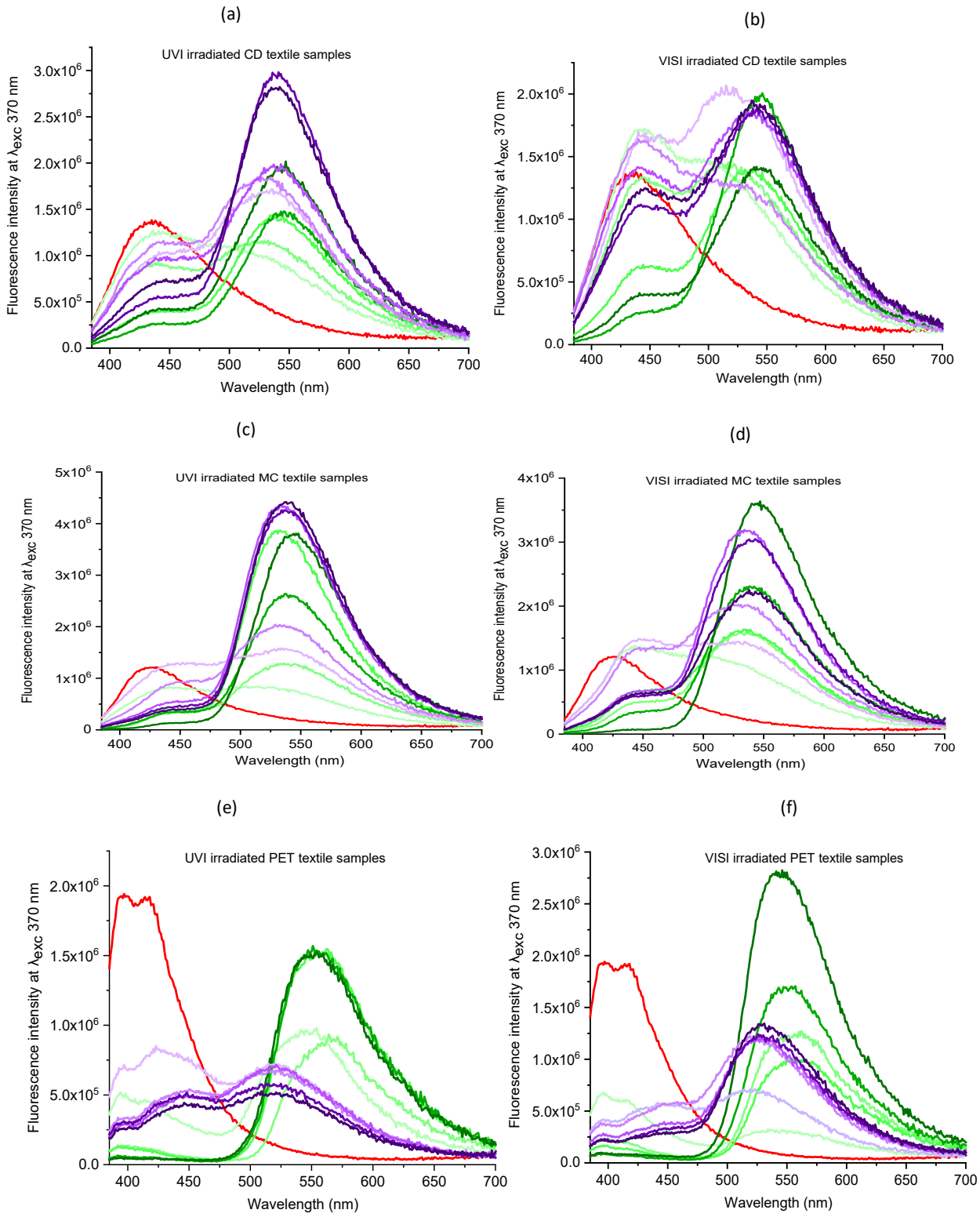


Figure SI 4: K/S values of all chromojet printed textile samples under UV and visible light irradiation



Note: Red line denotes untreated textile, green line from lighter to darker shade denotes 0.1% to 1% FMN water based formulations, violet line denotes from lighter to darker shade denotes 0.1% to 1% FMN glycerol based formulations

Figure SI 5: Fluorescence emission spectra of chromojet printed textile sample using water and glycerol based formulations with 0.1 to 1% FMN respectively, (a) and (b) CD printed, (c) and (d) MC printed, (e) and (f) PET printed after UV and visible light irradiation at λ_{exc} 370nm wavelength.

Table SI 1: Fluorescence intensity of chromojet printed textile sample at λ_{exc} 370nm wavelength using water-based and glycerol-based systems (0.1 – 1% FMN)

	CD			MC			PET	
FMN concentration	**Wavelength (nm)**	**Fluorescence intensity (CPS / MicroAmps) × 10^6**	**FMN concentration**	**Wavelength (nm)**	**Fluorescence intensity (CPS / MicroAmps) × 10^6**	**FMN concentration**	**Wavelength (nm)**	**Fluorescence intensity (CPS / MicroAmps) × 10^6**
Untreated	435	1.38	Untreated	430	1.22	Untreated	397	1.94
0.1%	524	4.24	0.1%	526	3.86	0.1%	398	0.68
0.3%	534	5.78	0.3%	540	3.2	0.3%	398	0.39
0.5%	537	3.67	0.5%	547	2.29	0.5%	566	0.4
0.8%	537	5.12	0.8%	547	2.57	0.8%	572	0.9
1%	543	3.1	1%	547	2.1	1%	539	5.57
0.1%	530	9.39	0.1%	529	9.21	0.1%	566	0.43
0.3%	531	6.33	0.3%	534	9.31	0.3%	535	5.49
0.5%	533	8.19	0.5%	532	8.53	0.5%	532	4.45
0.8%	538	8.34	0.8%	536	10	0.8%	536	6.08
1%	537	7.56	1%	537	9	1%	533	5.18

Note: The light yellow table background shade correspond to water-based formulations and the dark yellow shade to glycerol based formulations.

Table SI 2: Fluorescence intensity of chromojet printed textile sample after UV (UVI) and visible light (VISI) irradiation at λ_{exc} 370nm wavelength using water-based and glycerol-based systems (0.1 – 1% FMN)

	CD		MC		PET		CD	
FMN concentration	**Wavelength (nm)**	**Fluorescence intensity (CPS / MicroAmps) × 10^6**	**FMN concentration**	**Wavelength (nm)**	**Fluorescence intensity (CPS / MicroAmps) × 10^6**	**FMN concentration**	**Wavelength (nm)**	**Fluorescence intensity (CPS / MicroAmps) × 10^6**
Untreated	435	1.38	Untreated	430	1.22	Untreated	397	1.94
0.1%	436	1.27	0.1%	505	0.84	0.1%	554	0.98
0.3%	532	1.16	0.3%	536	1.29	0.3%	564	0.93
0.5%	534	1.44	0.5%	533	3.87	0.5%	562	1.55
0.8%	546	1.48	0.8%	537	2.64	0.8%	551	1.57
1%	547	2.02	1%	548	3.81	1%	554	1.52
0.1%	536	1.72	0.1%	534	1.59	0.1%	423	0.85
0.3%	524	1.85	0.3%	529	2.04	0.3%	524	0.68

0.5%	543	1.99	0.5%	533	4.35	0.5%	521	0.72
0.8%	541	2.98	0.8%	536	4.26	0.8%	513	0.58
1%	542	2.82	1%	537	4.42	1%	509	0.53
0.1%	445	1.72	0.1%	443	1.38	0.1%	396	0.68
0.3%	517	1.46	0.3%	536	1.59	0.3%	562	1.27
0.5%	540	1.41	0.5%	535	1.64	0.5%	557	1.01
0.8%	546	2.01	0.8%	538	2.31	0.8%	557	1.71
1%	541	1.42	1%	547	3.64	1%	546	2.82
0.1%	515	2.07	0.1%	451	1.49	0.1%	523	0.71
0.3%	440	1.64	0.3%	525	2.03	0.3%	519	1.23
0.5%	537	1.86	0.5%	534	3.19	0.5%	529	1.22
0.8%	538	1.88	0.8%	543	3.05	0.8%	526	1.24
1%	537	1.95	1%	538	2.25	1%	531	1.35

Note: The lighter color background shades correspond to water-based formulations and the darker color shades to glycerol-based formulations.

Table SI-3: Antibacterial activity of CD, MC, and PET chromojet printed textile samples

Sample no.	Sample name	24 hour Antibacterial activity	
		(%)	log
1	Control	99.1	2.04
2	PET Untreated	-6.45	-0.03
3	PET (GB with 1% FMN)	-18.28	-0.07
4	CD Untreated	-30.11	-0.11
5	CD (WB with 1% FMN)	92.47	1.12
6	CD (GB with 1% FMN)	94.84	1.29
7	MC Untreated	-41.94	-0.15
8	MC (WB with 1% FMN)	98.87	1.95
9	MC (GB with 1% FMN)	99.94	3.19

The positive values (%) demonstrate a decrease in bacterial growth and negative values (%) demonstrate an increase in bacterial growth. The value of (+) 100% indicates that all the bacteria on the surface were killed.* CFU: Colony-forming units.µ