

Figure S1. UV absorbance spectra of various FG-CD systems

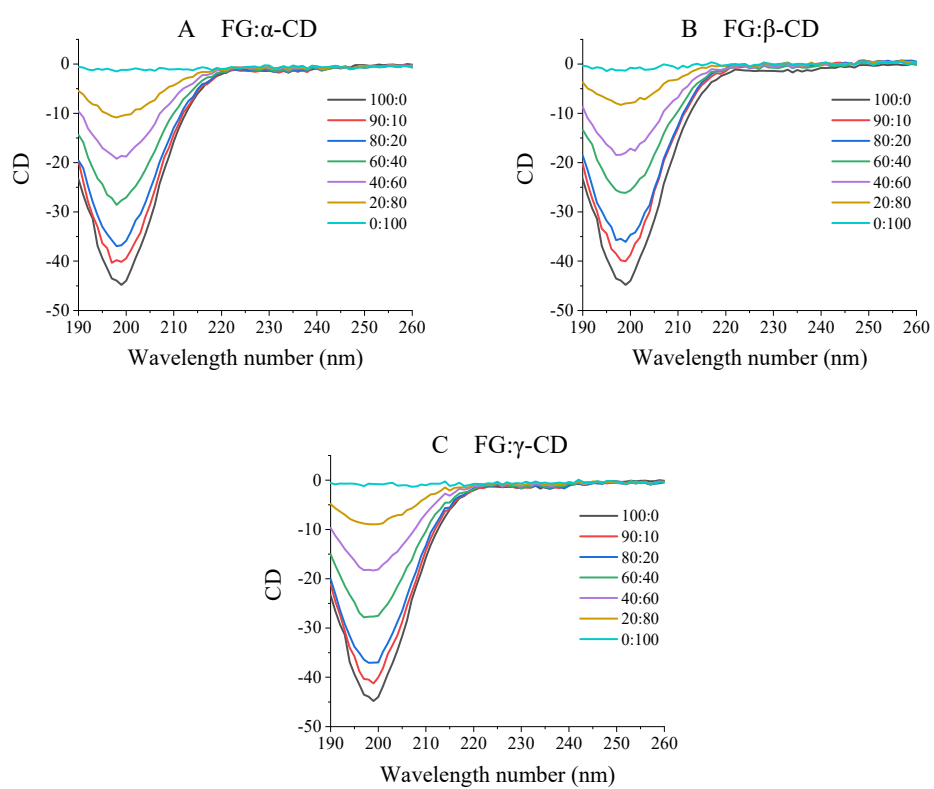


Figure S2. CD spectra of various FG-CD systems

Table S1. Flow behavior of various FG-CD systems

	Various ratios	η_{50} (mPa· s)	Power low			Bingham			Herschel-Bulkley			Cross			
			RMSE	κ (mPa· s)	n	RMSE	τ_0 (mPa)	η_0 (mPa· s)	RMSE	τ_0 (mPa)	κ (mPa· s)	n	RMSE	η_0 (mPa· s)	m
FG: α CD	100:0	0.15±0.01	0.152	0.16	0.98	0.296	0.127	0.144	0.151	-0.015	0.16	0.98	0.039	0.056	1.013
	90:10	0.17±0.00	0.150	0.19	0.98	0.456	0.232	0.164	0.150	-0.010	0.19	0.98	0.039	0.061	1.001
	80:20	0.28±0.01	0.442	0.33	0.98	0.871	0.305	0.282	0.431	-0.120	0.33	0.98	0.085	0.086	1.018
	60:40	0.17±0.07	0.234	0.19	0.98	0.455	0.154	0.166	0.228	-0.067	0.19	0.98	0.038	0.043	1.017
	40:60	0.26±0.00	0.370	0.29	0.98	0.786	0.284	0.249	0.359	-0.110	0.30	0.97	0.065	0.063	1.015
	20:80	0.25±0.07	0.407	0.29	0.98	0.763	0.245	0.246	0.395	-0.122	0.29	0.98	0.070	0.068	1.021
	0:100	0.17±0.03	0.254	0.20	0.97	0.596	0.232	0.167	0.246	-0.074	0.20	0.97	0.042	0.045	1.011
FG: β CD	90:10	0.12±0.05	0.384	0.05	0.99	1.088	-0.282	0.095	0.310	0.273	0.046	0.99	0.320	0.279	1.112
	80:20	0.07±0.04	0.197	0.04	0.98	0.316	-0.019	0.070	0.167	0.013	0.04	0.99	0.177	0.134	1.041
	60:40	0.03±0.01	0.608	0.09	0.86	0.903	0.292	0.036	0.601	-0.119	0.10	0.85	0.306	0.155	1.247
	40:60	0.05±0.01	0.136	0.06	0.97	0.204	0.079	0.047	0.136	-0.007	0.06	0.97	0.077	0.049	1.039
	20:80	0.04±0.01	0.589	0.08	0.86	0.848	0.224	0.034	0.578	-0.140	0.09	0.85	0.278	0.111	1.272
	0:100	0.03±0.01	0.327	0.11	0.97	0.739	-0.165	0.146	0.279	0.209	0.11	0.97	0.300	0.225	1.051
	FG: γ CD	90:10	0.10±0.02	0.074	0.07	0.99	0.070	0.037	0.068	0.069	0.032	0.07	0.99	0.041	0.059
80:20		0.12±0.01	0.498	0.07	0.98	1.550	-0.479	0.133	0.426	0.326	0.07	0.98	0.441	0.320	1.114
60:40		0.13±0.01	0.168	0.14	0.98	0.372	0.150	0.122	0.165	-0.037	0.14	0.98	0.032	0.042	1.013
40:60		0.11±0.01	0.248	0.13	0.98	0.393	0.136	0.109	0.246	-0.036	0.13	0.97	0.126	0.068	1.030
20:80		0.11±0.01	0.035	0.12	0.99	0.161	0.094	0.111	0.035	0.006	0.12	0.99	0.035	0.024	0.997
0:100		0.11±0.03	0.064	0.11	0.99	0.094	0.056	0.108	0.063	0.017	0.11	0.99	0.027	0.044	1.009

Table S2. Fluorescence peak values of various FG-CD systems and FG contents

	100:0	90:10	80:20	60:40	40:60	20:80
FG	4770.00±36.17 ^{Af}	4527.67±13.65 ^{Ae}	4355.33±11.59 ^{Ad}	4017.00±22.52 ^{Ac}	3093.67±16.65 ^{Ab}	1908.33±3.51 ^{Aa}
FG:αCD	4770.00±36.17 ^{Ae}	4811.33±24.17 ^{Cef}	4694.67±35.02 ^{Cd}	4147.67±18.61 ^{Cc}	3162.67±10.02 ^{Bb}	1927.67±23.25 ^{ABa}
FG:βCD	4770.00±36.17 ^{Ae}	4853.67±8.74 ^{Df}	4808.00±32.79 ^{Dd}	4421.67±22.59 ^{Dc}	3523.00±14.00 ^{Db}	2178.67±11.59 ^{Ca}
FG:γCD	4770.00±36.17 ^{Af}	4642.00±12.12 ^{Be}	4606.33±7.23 ^{Bd}	4085.33±10.11 ^{Bc}	3199.00±12.12 ^{Cb}	1960.33±10.50 ^{Ba}

The values are mean ± SD, calculated from triplicate measurements. Values with different letters in the

same column (A-D) and same line (a-f) are significantly different at $p < 0.05$

Table S3. FTIR Amide bands of various FG-CD systems

	Various ratios	Amide I	Amide II	Amide III	Amide A	Amide B
FG: α CD	100:0	1655.59	1548.56	1240.00	3326.61	2958.27
	90:10	1655.59	1548.59	1240.00	3328.71	2938.98
	80:20	1655.59	1549.52	1240.00	3330.61	2938.02
	60:40	1656.55	1550.49	1241.93	3332.39	2935.13
	40:60	1658.48	1550.49	1241.93	3345.89	2933.20
	20:80	1656.55	1551.45	1242.90	3347.82	2931.27
	0:100	1640.16	-	1241.93	3367.10	2930.31
FG: β CD	90:10	1657.52	1541.81	1240.00	3336.25	2954.41
	80:20	1657.52	1541.81	1240.97	3355.53	2936.09
	60:40	1657.52	1542.77	1240.97	3342.03	2935.13
	40:60	1658.48	1542.77	1242.90	3359.39	2929.34
	20:80	1649.80	1543.74	1243.86	3376.75	2927.41
	0:100	1650.77	-	1245.79	3359.39	2923.56
FG: γ CD	90:10	1656.55	1543.74	1240.00	3327.57	2941.88
	80:20	1657.52	1542.77	1240.97	3328.53	2938.02
	60:40	1657.52	1541.81	1240.97	3339.14	2936.09
	40:60	1658.48	1541.81	1241.93	3338.18	2934.16
	20:80	1657.52	1542.77	1242.90	3376.75	2932.23
	0:100	1657.52	-	1241.93	3389.28	2932.23

Table S4. Secondary structure analysis of various FG-CD systems by FTIR

Various ratios		β -sheet	Random coil	α -helix	β -turn
FG: α CD	100:0	31.96 \pm 0.31 ^{bc}	18.28 \pm 0.56 ^{ab}	9.65 \pm 0.12 ^a	40.11 \pm 0.30 ^a
	90:10	31.34 \pm 0.14 ^a	18.48 \pm 0.23 ^{ab}	9.92 \pm 0.12 ^{bc}	40.26 \pm 0.26 ^{ab}
	80:20	31.76 \pm 0.13 ^b	18.21 \pm 0.01 ^a	9.80 \pm 0.07 ^{ab}	40.24 \pm 0.08 ^a
FG: β CD	100:0	31.96 \pm 0.31 ^{bc}	18.28 \pm 0.56 ^{ab}	9.65 \pm 0.12 ^a	40.11 \pm 0.30 ^c
	90:10	31.69 \pm 1.22 ^b	18.01 \pm 0.47 ^a	12.81 \pm 0.45 ^c	37.49 \pm 0.14 ^a
	80:20	30.12 \pm 1.25 ^a	19.52 \pm 0.91 ^{bc}	12.23 \pm 0.05 ^b	38.14 \pm 0.40 ^b
FG: γ CD	100:0	31.96 \pm 0.31 ^a	18.28 \pm 0.56 ^b	9.65 \pm 0.12 ^a	40.11 \pm 0.30 ^c
	90:10	36.95 \pm 0.05 ^c	12.13 \pm 0.13 ^a	12.31 \pm 0.06 ^c	38.62 \pm 0.12 ^b
	80:20	33.96 \pm 0.17 ^b	19.14 \pm 0.06 ^c	10.47 \pm 0.13 ^b	36.44 \pm 0.37 ^a

The values are mean \pm SD, calculated from triplicate measurements. Values with different letters in the

same system (a-c) are significantly different at $p < 0.05$.