

Supplemental Table 1. Composition, physical characteristics and effect (IC₅₀ nM) of ritonavir (10% w/w) solid drug nanoparticles on CYP3A4 in baculosome incubations (cell-free assay) or human primary hepatocytes (cell-based assay).

Sample Number	Polymer (60%)	Surfactant (30%)	Z-average (nm)	Zeta potential (mV)	Polydispersity Index (PDI)	Cell Free IC ₅₀ nM	Cell based IC ₅₀ nM
Control	Aqueous Ritonavir					4.18±0.39	5.82±0.22
1	PEG	NaDC	495	-66	0.295	0.51±0.02	1.56±0.20
2	PEG	NaCap	614	-12	0.055	4.93±0.25	6.45±0.89
3	PEG	AOT	572	-92	0.160	0.05±0.01	1.28±0.21
4	PEG	Cremophor	228	-6	0.423	4.42±0.04	8.54±0.22
5	PEG	Tween 20	531	-14	0.161	0.27±0.01	1.06±0.15
6	F68	NaDC	749	-18	0.444	0.06±0.002	2.47±0.17
7	F68	AOT	557	-38	0.045	0.33±0.01	1.30±0.15
8	F68	Cremophor	244	-8	0.353	0.97±0.07	2.23±0.26
9	F68	Tween 20	600	-8	0.148	4.80±0.41	2.054±0.20
10	F68	Tween 80	337	-21	0.536	1.05±0.07	1.70±0.14
11	F68	Brij 58	763	-5	0.324	5.49±0.30	8.92±0.77
12	F127	NaDC	571	-8	0.178	0.38±0.03	2.09±0.47
13	F127	NaCap	1001	-2	0.324	48.97±3.24	83.82±3.27
14	F127	AOT	641	-21	0.185	1.05±0.13	2.39±0.29
15	F127	Tween 20	570	-7	0.267	1.17±0.09	5.82±0.62
16	F127	Tween 80	440	-10	0.409	1.50±0.13	2.96±0.31
17	F127	Hyamine	1164	26	0.397	12.28±1.66	16.69±2.53

18	Kollicoat	NaDC	688	-5	0.193	13.96±1.54	21.69±2.75
19	Kollicoat	NaCap	911	-1	0.510	21.71±0.39	40.4±1.90
20	Kollicoat	Vit-E-PEG	745	-1	0.094	8.02±0.93	9.49±0.27
21	Kollicoat	Sisterna 16	921	-26	0.461	9.84±0.14	12.82±0.38
22	Kollicoat	AOT	808	-23	0.213	0.26±0.045	1.68±0.23
23	Kollicoat	Cremophor	223	-3	0.168	2.12±0.14	6.2±0.30
24	Kollicoat	Solutol HS	389	-1	0.262	9.85±0.49	12.77±0.12
25	Kollicoat	Tween 20	560	-2	0.279	16.92±1.42	23.44±3.49
26	Kollicoat	Tween 80	277	-8	0.142	4.66±0.30	5.65±0.96
27	Kollicoat	Brij 58	726	-1	0.248	0.15±0.02	0.94±0.015
29	PVA	NaDC	498	-7	0.189	0.32±0.14	0.61±0.07
30	PVA	Vit-E-PEG	687	-2	0.353	0.34±0.04	0.45±0.015
31	PVA	Sisterna 11	461	-5	0.357	0.25±0.029	1.08±0.08
32	PVA	Sisterna 16	571	-6	0.328	1.04±0.18	5.29±0.62
33	PVA	AOT	880	-20	0.268	3.98±0.53	6.78±0.21
34	PVA	Cremophor	268	-3	0.128	0.61±0.03	3.42±0.12
35	PVA	Solutol HS	420	-2	0.324	5.20±0.10	19.18±0.74
36	PVA	Tween 20	416	-5	0.165	3.31±0.34	12.42±1.95

37	PVA	Tween 80	265	-5	0.151	1.49±0.19	2.48±0.87
38	PVA	Brij 58	610	-2	0.302	1.22±0.26	3.45±0.65
39	PVA	Hyamine	586	17	0.107	0.86±0.19	3.14±0.39
40	PVP	NaDC	599	-24	0.101	2.75±0.19	9.00±1.28
41	PVP	NaCap	677	-5	0.224	1.43±0.15	7.41±1.09
42	PVP	Vit-E-PEG	581	-3	0.094	1.10±0.22	3.72±0.54
43	PVP	AOT	586	-60	0.035	0.57±0.09	1.56±0.28
44	PVP	Cremophor	259	-27	0.216	4.45±0.18	4.74±0.56
45	PVP	Solutol HS	475	-1	0.430	0.13±0.009	1.87±0.05
46	PVP	Tween 20	928	-8	0.363	0.48±0.04	2.88±0.16
47	PVP	Tween 80	308	-7	0.184	5.03±0.38	9.44±1.78
48	PVP	Brij 58	690	-2	0.035	0.59±0.06	1.23±0.08
49	PVP	Hyamine	779	36	0.057	0.66±0.75	1.87±0.04
50	HPC	NaCap	1614	-1	0.751	0.14±0.01	4.83±0.04
51	HPC	AOT	716	-38	0.153	0.16±0.008	1.43±0.04
52	HPC	Tween 20	674	-15	0.282	1.51±0.12	12.65±1.86
53	HPC	Tween 80	532	-7	0.280	0.07±0.005	0.24±0.002
54	HPC	CTAB	3682	22	0.937	0.20±0.006	1.02±0.04
55	HPMC	AOT	780	-26	0.058	12.24±1.15	2.45±0.27
56	HPMC	Cremophor	235	-9	0.194	3.42±0.21	8.90±1.87
57	HPMC	Solutol HS	359	-2	0.205	1.45±0.18	4.11±0.06
58	HPMC	Tween 20	585	-13	0.062	1.63±0.13	6.43±0.46
59	HPMC	Tween 80	290	-7	0.118	1.10±0.005	3.68±0.10

60	HPMC	CTAB	169	35	0.628	1.59±0.002	5.78±0.77
61	NaCMC	Cremophor	939	-3	0.387	1.36±0.01	3.86±0.37
62	HG	NaCap	701	-13	0.240	2.57±0.10	7.81±1.09
63	HG	Vit-E-PEG	723	-3	0.357	1.37±0.12	4.22±0.11
64	HG	AOT	776	-60	0.314	0.68±0.006	2.23±0.13
65	HG	Cremophor	287	-2	0.352	0.77±0.01	3.44±0.07
66	HG	Solutol HS	1062	-3	0.835	0.73±0.004	2.66±0.09
67	HG	Tween 80	414	-12	0.499	0.99±0.002	1.98±0.06
68	HG	Hyamine	705	27	0.271	2.01±0.01	3.86±0.37