

Two-in-One: Size Characterization and Accelerated Short-Term Physical Stability of Dual-Drug Suspensions with Two Acidic Compounds (Indomethacin and Naproxen)

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SUPPLEMENTARY MATERIALS

Tables

Table S1. Sizes of unmilled drug particles of prepared suspensions. Dual suspensions containing both indomethacin and naproxen were analyzed with both the Mie-Theory (MT) and Fraunhofer Approximation (FA).

	D₁₀	D₅₀	D₉₀	Span
Indomethacin	15.60	46.40	169.1	1.731
Naproxen	13.60	32.60	63.20	1.523
Mix, MT	13.40	36.50	98.00	2.311
Mix, FA	12.50	36.10	96.00	2.307

Table S2. Particle sizes of prepared indomethacin suspension stabilized with 3% (m/v) polysorbate 20 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.362	0.510	0.465	0.625	0.321	0.377	0.440	0.500
D₅₀	0.662	1.140	1.020	1.230	0.531	0.758	0.957	1.090
D₉₀	1.740	2.580	2.340	2.660	1.160	2.000	2.480	2.740
Span	2.077	1.811	1.837	1.660	1.586	2.139	2.130	2.047

Table S3. Particle sizes of prepared indomethacin suspension stabilized with 3% (m/v) polysorbate 80 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.346	0.421	0.407	0.457	0.335	0.385	0.421	0.434
D₅₀	0.590	0.816	0.798	0.912	0.548	0.705	0.801	0.872
D₉₀	1.490	1.790	1.910	2.010	1.080	1.590	1.690	1.900
Span	1.944	1.673	1.887	1.699	1.359	1.710	1.581	1.683

Table S4. Particle sizes of prepared indomethacin suspension stabilized with 3% (m/v) polysorbate 85 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.610	1.680	1.120	0.908	0.691	1.110	1.560	1.100
D₅₀	1.440	3.530	2.970	2.620	1.690	2.920	3.310	2.650
D₉₀	2.760	6.260	5.800	5.100	3.220	5.660	6.060	5.090
Span	1.489	1.298	1.575	1.600	1.498	1.557	1.358	1.509

Table S5. Particle sizes of prepared indomethacin suspension stabilized with 3% (m/v) poloxamer 188 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.351	0.375	0.394	0.379	0.328	0.344	0.345	0.377
D₅₀	0.642	0.720	0.820	0.739	0.543	0.620	0.611	0.676
D₉₀	1.910	1.890	2.130	1.960	1.360	1.700	1.590	1.640
Span	2.428	2.104	2.122	2.145	1.914	2.192	2.045	1.875

Table S6. Particle sizes of prepared indomethacin suspension stabilized with 3% (m/v) poloxamer 338 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.363	0.386	0.451	0.392	0.343	0.400	0.390	0.397
D₅₀	0.722	0.848	1.040	0.857	0.648	0.877	0.786	0.793
D₉₀	2.360	2.390	2.800	2.380	2.190	2.370	2.140	2.150
Span	2.763	2.368	2.267	2.327	2.856	2.251	2.226	2.212

Table S7. Particle sizes of prepared indomethacin suspension stabilized with 3% (m/v) poloxamer 407 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.367	0.375	0.463	0.383	0.357	0.406	0.407	0.395
D₅₀	0.705	0.752	0.994	0.778	0.667	0.898	0.808	0.792
D₉₀	2.380	2.090	2.670	2.120	2.230	2.350	2.010	2.090
Span	2.852	2.279	2.217	2.236	2.815	2.170	1.979	2.145

Table S8. Particle sizes of prepared indomethacin suspension stabilized with 3% (m/v) PVP K16-18 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.346	0.490	0.533	0.491	0.362	0.370	0.387	0.376
D₅₀	0.665	1.180	1.290	1.220	0.643	0.739	0.766	0.690
D₉₀	2.710	2.490	2.800	2.530	2.990	2.500	2.680	2.330
Span	3.562	1.692	1.756	1.672	4.093	2.879	3.001	2.834

Table S9. Particle sizes of prepared indomethacin suspension stabilized with 3% (m/v) PVP K30 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.337	0.354	0.371	0.362	0.309	0.325	0.335	0.334
D₅₀	0.619	0.711	0.735	0.692	0.529	0.572	0.576	0.564
D₉₀	2.510	2.090	2.320	2.110	2.060	1.970	1.720	1.600
Span	3.505	2.446	2.651	2.522	3.326	2.870	2.407	2.249

Table S10. Particle sizes of prepared indomethacin suspension stabilized with 3% (m/v) vitamin E TPGS dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.354	0.369	0.373	0.380	0.306	0.343	0.381	0.372
D₅₀	0.672	0.712	0.801	0.757	0.510	0.635	0.694	0.684
D₉₀	2.350	1.910	2.300	2.030	1.320	1.700	1.640	1.720
Span	2.968	2.162	2.407	2.180	1.977	2.141	1.807	1.964

Table S11. Particle sizes of prepared indomethacin suspension stabilized with 3% (m/v) SLS dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.367	0.417	0.442	0.411	0.364	0.432	0.424	0.421
D₅₀	0.674	0.869	0.926	0.858	0.654	0.906	0.873	0.868
D₉₀	1.810	2.090	2.000	2.040	1.660	2.060	1.970	1.980
Span	2.135	1.930	1.679	1.901	1.973	1.791	1.769	1.793

Table S12. Particle sizes of prepared naproxen suspension stabilized with 3% (m/v) polysorbate 20 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.728	1.530	1.130	1.650	0.727	1.110	1.520	1.680
D₅₀	1.470	3.540	2.360	3.950	1.530	2.360	3.240	3.960
D₉₀	2.780	7.290	4.760	7.920	3.020	4.930	6.430	8.830
Span	1.396	1.625	1.542	1.596	1.503	1.619	1.516	1.807

Table S13. Particle sizes of prepared naproxen suspension stabilized with 3% (m/v) polysorbate 80 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.505	0.993	0.874	1.200	0.593	0.752	1.040	1.130
D₅₀	1.020	2.040	1.810	2.400	1.190	1.580	2.160	2.300
D₉₀	2.570	3.970	3.800	4.560	2.770	3.800	4.170	4.480
Span	2.017	1.460	1.620	1.399	1.835	1.933	1.447	1.455

Table S14. Particle sizes of prepared naproxen suspension stabilized with 3% (m/v) polysorbate 85 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.597	1.790	1.180	2.110	5.300	6.480	1.910	3.760
D₅₀	1.540	3.840	3.070	4.880	11.80	44.40	4.550	9.590
D₉₀	3.120	6.920	6.080	9.690	25.00	102.0	9.070	25.40
Span	1.644	1.333	1.599	1.549	1.681	2.365	1.573	2.260

Table S15. Particle sizes of prepared naproxen suspension stabilized with 3% (m/v) poloxamer 188 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.843	1.310	1.260	1.380	0.915	1.190	1.100	1.090
D₅₀	1.820	2.880	3.390	3.230	2.190	3.220	2.710	3.010
D₉₀	3.890	5.880	57.80	6.860	16.10	42.40	6.560	12.20
Span	1.677	1.585	16.35	1.699	6.926	12.80	2.013	3.683

Table S16. Particle sizes of prepared naproxen suspension stabilized with 3% (m/v) poloxamer 338 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.472	0.939	1.230	0.973	0.526	1.060	0.927	1.170
D₅₀	0.919	2.340	2.820	2.460	1.050	2.500	2.210	2.750
D₉₀	2.360	5.120	5.820	5.370	2.570	5.470	4.490	6.100
Span	2.052	1.788	1.630	1.786	1.955	1.761	1.837	1.790

Table S17. Particle sizes of prepared naproxen suspension stabilized with 3% (m/v) poloxamer 407 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.496	0.990	1.240	1.190	0.550	1.280	1.350	1.170
D₅₀	1.060	2.640	3.010	3.100	1.140	2.950	3.150	2.960
D₉₀	2.650	6.040	6.500	6.860	2.780	6.410	6.610	6.600
Span	2.033	1.912	1.749	1.829	1.960	1.736	1.668	1.840

Table S18. Particle sizes of prepared naproxen suspension stabilized with 3% (m/v) PVP K16-18 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.408	0.707	0.732	0.693	0.357	0.625	0.600	0.596
D₅₀	0.816	1.930	2.110	2.020	0.585	1.730	1.630	1.380
D₉₀	2.050	4.030	4.640	4.260	1.630	3.970	3.760	3.450
Span	2.014	1.720	1.855	1.770	2.172	1.932	1.944	2.069

Table S19. Particle sizes of prepared naproxen suspension stabilized with 3% (m/v) PVP K30 dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.365	0.488	0.624	0.624	0.366	0.405	0.412	0.404
D₅₀	0.637	1.270	1.880	1.880	0.612	0.806	0.760	0.721
D₉₀	2.170	3.200	4.20	4.340	1.820	2.490	2.190	2.070
Span	2.839	2.133	1.904	1.977	2.369	2.584	2.340	2.315

Table S20. Particle sizes of prepared naproxen suspension stabilized with 3% (m/v) vitamin E TPGS dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.524	0.851	0.747	0.833	0.430	0.604	0.739	0.661
D₅₀	1.100	1.80	1.710	1.790	0.817	1.310	1.650	1.430
D₉₀	2.580	3.840	4.310	3.930	2.470	4.210	4.520	4.060
Span	1.873	1.662	2.081	1.729	2.496	2.762	2.294	2.380

Table S21. Particle sizes of prepared naproxen suspension stabilized with 3% (m/v) SLS dissolved in either citric buffer, pH 3.0 or acetate buffer, pH 4.0. Suspensions were stored over 28 days at 40 °C.

	Citric buffer, pH 3.0				Acetate buffer, pH 4.0			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.935	1.900	1.690	1.720	1.350	1.400	1.820	1.780
D₅₀	3.860	4.650	4.850	4.120	3.570	4.790	5.340	4.770
D₉₀	11.70	10.80	14.10	8.810	9.510	17.10	24.00	13.90
Span	2.768	1.905	2.556	1.722	2.287	3.271	4.121	2.545

Table S22. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) polysorbate 20 dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory or Fraunhofer Approximation.

	Mie-Theory				Fraunhofer approximation			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.369	0.469	0.801	0.657	0.405	0.518	0.602	0.637
D₅₀	0.632	1.020	2.310	1.720	0.851	1.140	2.120	1.650
D₉₀	1.520	2.540	4.610	3.790	1.650	2.450	4.530	3.670
Span	1.829	2.025	1.652	1.820	1.460	1.700	1.855	1.843

Table S23. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) polysorbate 80 dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory or Fraunhofer Approximation.

	Mie-Theory				Fraunhofer approximation			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.356	0.421	0.445	0.451	0.367	0.478	0.531	0.540
D₅₀	0.578	0.847	0.912	0.910	0.781	1.030	1.070	1.070
D₉₀	1.340	2.080	2.040	1.960	1.510	2.070	2.040	1.990
Span	1.702	1.956	1.747	1.661	1.463	1.544	1.415	1.357

Table S24. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) polysorbate 85 dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory or Fraunhofer Approximation.

	Mie-Theory				Fraunhofer approximation			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.801	1.540	1.590	1.300	0.572	1.070	1.180	0.937
D₅₀	2.290	3.490	3.270	2.950	2.200	3.410	3.240	2.840
D₉₀	4.160	6.540	5.710	5.340	4.160	6.480	5.730	5.330
Span	1.467	1.430	1.261	1.371	1.631	1.585	1.408	1.545

Table S25. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) poloxamer 188 dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory or Fraunhofer Approximation.

	Mie-Theory				Fraunhofer approximation			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.357	0.409	0.407	0.421	0.367	0.466	0.445	0.470
D₅₀	0.596	0.896	0.750	0.836	0.825	1.090	0.951	1.020
D₉₀	1.590	2.650	1.800	2.290	1.690	2.560	1.860	2.230
Span	2.070	2.496	1.863	2.238	1.601	1.925	1.490	1.727

Table S26. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) poloxamer 338 dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory or Fraunhofer Approximation.

	Mie-Theory				Fraunhofer approximation			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.374	0.524	0.420	0.435	0.420	0.534	0.484	0.509
D₅₀	0.722	1.300	0.874	0.927	0.998	1.330	1.060	1.090
D₉₀	2.370	3.710	2.370	2.410	2.320	3.420	2.300	2.330
Span	2.775	2.450	2.224	2.126	1.900	2.173	1.707	1.673

Table S27. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) poloxamer 407 dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory or Fraunhofer Approximation.

	Mie-Theory				Fraunhofer approximation			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.363	0.454	0.404	0.420	0.392	0.503	0.452	0.484
D₅₀	0.650	1.180	0.765	0.843	0.917	1.270	0.972	1.030
D₉₀	2.080	3.590	2.030	2.280	2.070	3.430	2.020	2.220
Span	2.643	2.645	2.120	2.204	1.835	2.292	1.611	1.686

Table S28. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) PVP K16-K18 dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory or Fraunhofer Approximation.

	Mie-Theory				Fraunhofer approximation			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.399	0.564	0.451	0.485	0.533	0.642	0.621	0.627
D₅₀	0.803	1.310	1.050	1.170	1.090	1.380	1.240	1.290
D₉₀	2.380	2.930	2.390	2.670	2.200	2.750	2.290	2.550
Span	2.473	1.807	1.834	1.869	1.530	1.529	1.352	1.490

Table S29. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) PVP K30 dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory or Fraunhofer Approximation.

	Mie-Theory				Fraunhofer approximation			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.325	0.381	0.368	0.386	0.359	0.477	0.458	0.501
D₅₀	0.565	0.775	0.681	0.784	0.908	1.070	0.979	1.060
D₉₀	2.110	2.440	1.960	2.210	2.100	2.330	1.960	2.150
Span	3.161	2.656	2.340	2.323	1.913	1.729	1.533	1.555

Table S30. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) vitamin E TPGS dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory or Fraunhofer Approximation.

	Mie-Theory				Fraunhofer approximation			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.348	0.416	0.429	0.430	0.368	0.483	0.501	0.508
D₅₀	0.592	0.914	0.845	0.878	0.843	1.090	1.020	1.040
D₉₀	1.750	2.440	1.980	2.160	1.820	2.380	1.980	2.130
Span	2.375	2.217	1.830	1.966	1.718	1.741	1.450	1.557

Table S31. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) SLS dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory or Fraunhofer Approximation.

	Mie-Theory				Fraunhofer approximation			
	Day 0	Day 7	Day 14	Day 28	Day 0	Day 7	Day 14	Day 28
D₁₀	0.389	0.502	0.476	0.636	0.430	0.530	0.531	0.595
D₅₀	0.695	1.120	1.030	1.870	0.899	1.190	1.140	1.590
D₉₀	1.790	3.480	2.820	8.630	1.820	3.170	2.610	7.720
Span	2.020	2.611	2.275	4.374	1.547	2.191	1.819	4.504

Table S32. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) vitamin E TPGS and polysorbate 85 dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory.

	Day 0	Day 7	Day 14	Day 28
D₁₀	0.350	0.419	0.431	0.430
D₅₀	0.640	0.879	0.947	0.896
D₉₀	1.910	2.330	2.460	2.170
Span	2.543	2.174	2.143	1.937

Table S33. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) poloxamer 188 and PVP K30 dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory.

	Day 0	Day 7	Day 14	Day 28
D₁₀	0.347	0.426	0.449	0.451
D₅₀	0.631	0.976	1.030	1.010
D₉₀	1.830	2.470	2.400	2.370
Span	2.354	2.088	1.893	1.894

Table S34. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) polysorbate 85 and poloxamer 338 dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory.

	Day 0	Day 7	Day 14	Day 28
D₁₀	0.341	0.388	0.381	0.389
D₅₀	0.611	0.795	0.755	0.785
D₉₀	1.910	2.380	2.260	2.350
Span	2.565	2.492	2.481	2.490

Table S35. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) vitamin E TPGS and PVP K16-18 dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory.

	Day 0	Day 7	Day 14	Day 28
D₁₀	0.329	0.405	0.430	0.415
D₅₀	0.563	0.825	0.983	0.859
D₉₀	1.680	2.100	2.500	2.110
Span	2.390	2.054	2.105	1.974

Table S36. Particle sizes of dual suspensions containing both indomethacin and naproxen stabilized with 3% (m/v) polysorbate 20 and PVP K16-18 dissolved in citric buffer, pH 3.0. Suspensions were stored over 28 days at 40 °C. The particle sizes were analyzed with Mie-Theory.

	Day 0	Day 7	Day 14	Day 28
D₁₀	0.367	0.469	0.587	0.609
D₅₀	0.663	1.060	1.450	1.430
D₉₀	1.690	2.530	3.280	3.190
Span	2.002	1.944	1.859	1.807

Figures

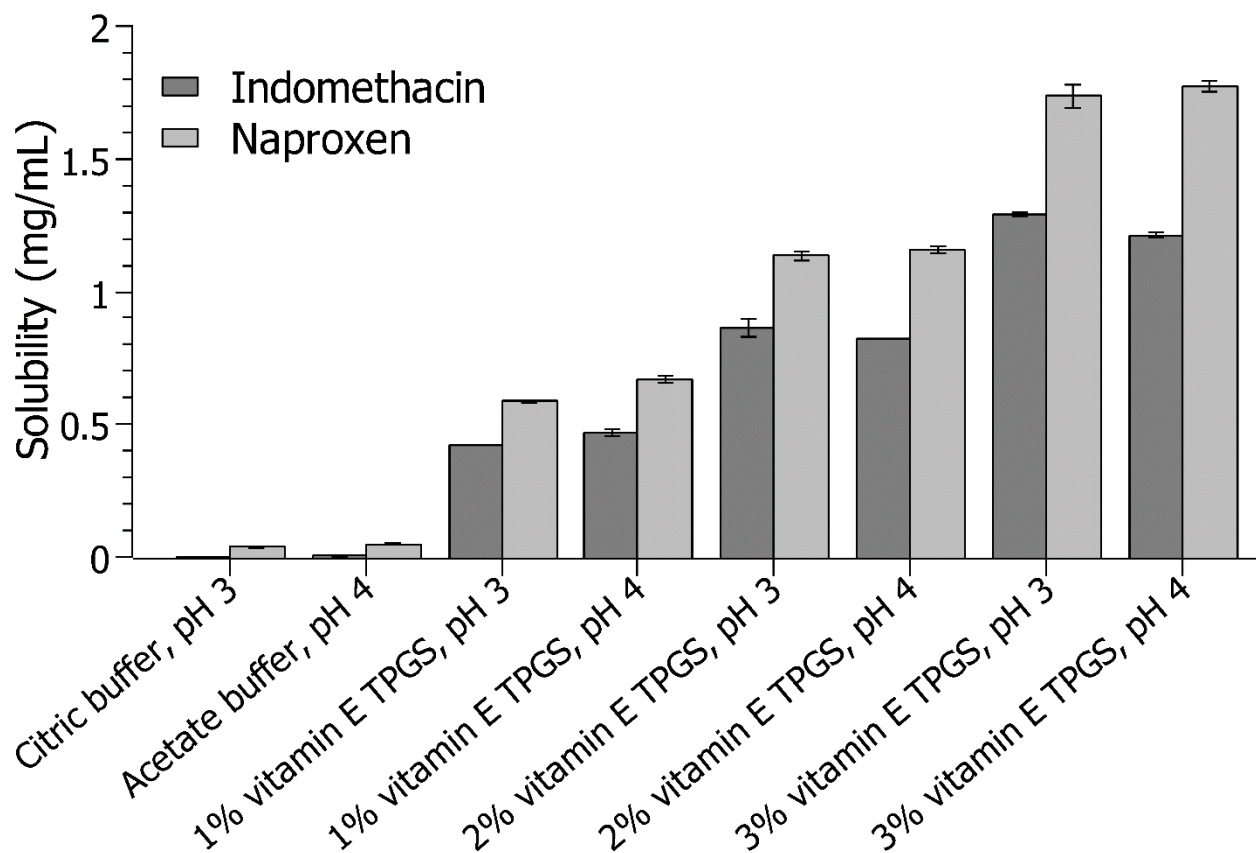


Fig. S1. Overview of the solubility of indomethacin and naproxen in different buffer systems and increasing concentration of vitamin E TPGS prepared with either citric buffer, pH 3.0 or acetate buffer, pH 4.0 (n = 3).

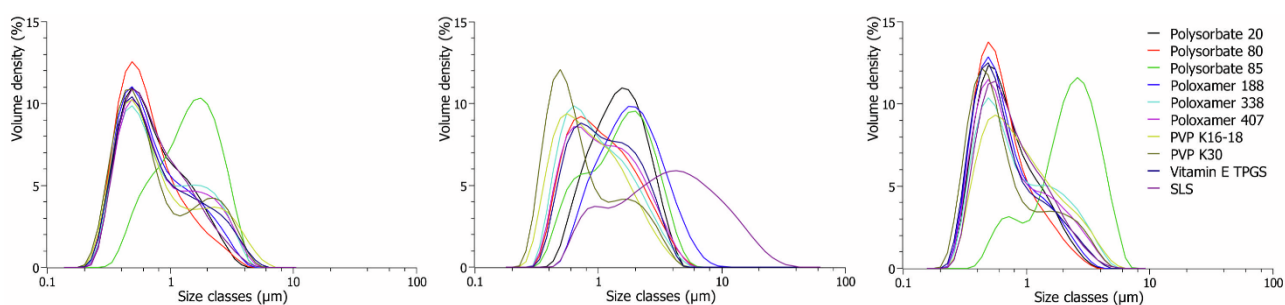


Fig. S2. Overview of obtained particle size distributions right after milling from the stabilizer screening of indomethacin suspensions (left), naproxen suspensions (middle), and dual suspensions containing both drug compounds analyzed with Mic-theory.