

Table 2: Rheological data for *efc*-crystals of spheroids with $r_p = 8$. (We demonstrate in App. I that $Y_{1111} = Y_{1122} + 2Y_{1212}$ for this type of lattice.)

Table 3: Rheological data for *ebc*-crystals of spheroids with $r_p = 8$.

Table 4: Rheological data for *esc*-crystals of spheroids with $r_p = 8$.

Table 5: Rheological data for *smc*-crystals of spheroids with $r_p = 8$.

One can verify the relation $Y_{1111} = Y_{1122} + 2Y_{1212}$ predicted for structures with cylindrical symmetry.

Table 6: Rheological data for *isc*-crystals of spheroids with $r_p = 8$.

Table 7: Rheological data for *efc*-crystals of spheroids with $r_p = 4$.

Table 8: Rheological data for *efc*-crystals of spheroids with $r_p = 16$.

Table 9: Rheological data for *efc*-crystals of spheroids with $r_p = 300$.

Table 10: Sedimentation rates for *efc*-crystals of spheroids with $r_p = 8$.

Table 11: Sedimentation rates for *smc*-crystals of spheroids with $r_p = 8$.

Table 2

ϕ	Y_{1111}	Y_{1212}	Y_{3131}
0.00568	2.03E-02	5.288E-03	5.506E-03
0.01096	2.15E-02	5.327E-03	5.503E-03
0.02080	2.33E-02	5.398E-03	5.511E-03
0.03890	2.62E-02	5.529E-03	5.552E-03
0.06279	2.95E-02	5.699E-03	5.630E-03
0.10145	3.44E-02	5.992E-03	5.801E-03
0.16367	4.12E-02	6.505E-03	6.155E-03
0.20815	4.53E-02	6.912E-03	6.466E-03
0.24236	4.80E-02	7.237E-03	6.727E-03
0.32999	5.41E-02	8.234E-03	7.568E-03
0.38474	5.81E-02	8.994E-03	8.227E-03
0.45074	6.39E-02	1.011E-02	9.201E-03
0.54094	7.39E-02	1.217E-02	1.099E-02
0.61755	8.57E-02	1.470E-02	1.315E-02
0.64225	9.01E-02	1.576E-02	1.405E-02
0.71180	1.08E-01	2.078E-02	1.813E-02

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Stokes flow Part 3. Appendix B.

Table 3

ϕ	Y_{1111}	Y_{1122}	Y_{1212}	Y_{3131}
0.00535	2.94E-02	5.23E-03	5.334E-03	5.517E-03
0.01013	3.12E-02	5.21E-03	5.418E-03	5.520E-03
0.02518	3.57E-02	5.17E-03	5.684E-03	5.549E-03
0.04944	4.13E-02	5.11E-03	6.120E-03	5.636E-03
0.07500	4.58E-02	5.07E-03	6.593E-03	5.756E-03
0.10429	4.98E-02	5.06E-03	7.160E-03	5.925E-03
0.12540	5.20E-02	5.07E-03	7.588E-03	6.063E-03
0.15010	5.43E-02	5.09E-03	8.098E-03	6.237E-03
0.20113	5.85E-02	5.21E-03	9.205E-03	6.648E-03
0.24975	6.27E-02	5.40E-03	1.029E-02	7.097E-03
0.30341	6.80E-02	5.70E-03	1.152E-02	7.668E-03
0.37315	7.62E-02	6.22E-03	1.302E-02	8.507E-03
0.42763	8.42E-02	6.84E-03	1.448E-02	9.420E-03
0.47655	9.22E-02	7.36E-03	1.544E-02	1.021E-02
0.55122	1.08E-01	8.95E-03	1.755E-02	1.208E-02
0.72754	1.64E-01	1.55E-02	2.543E-02	1.969E-02

Table 4

ϕ	Y_{1111}	Y_{1122}	Y_{1212}	Y_{3131}
0.00436	2.02E-02	9.54E-03	5.227E-03	5.501E-03
0.01180	2.20E-02	1.10E-02	5.196E-03	5.491E-03
0.03068	2.58E-02	1.40E-02	5.134E-03	5.508E-03
0.05686	3.03E-02	1.73E-02	5.076E-03	5.574E-03
0.07698	3.36E-02	1.97E-02	5.048E-03	5.641E-03
0.10387	3.80E-02	2.27E-02	5.032E-03	5.745E-03
0.13970	4.40E-02	2.65E-02	5.045E-03	5.904E-03
0.18735	5.23E-02	3.13E-02	5.119E-03	6.146E-03
0.25056	6.44E-02	3.76E-02	5.326E-03	6.521E-03
0.33426	8.27E-02	4.56E-02	5.838E-03	7.120E-03
0.44492	1.10E-01	5.75E-02	7.215E-03	8.142E-03

Table 5

ϕ	Y_{1111}	Y_{1122}	Y_{1212}	Y_{3131}
0.00504	2.04E-02	9.79E-03	5.288E-03	5.497E-03
0.00982	2.15E-02	1.09E-02	5.327E-03	5.488E-03
0.02587	2.47E-02	1.38E-02	5.454E-03	5.493E-03
0.04832	2.85E-02	1.72E-02	5.631E-03	5.539E-03
0.06566	3.12E-02	1.96E-02	5.770E-03	5.590E-03
0.08889	3.46E-02	2.27E-02	5.963E-03	5.671E-03
0.11994	3.92E-02	2.68E-02	6.236E-03	5.796E-03
0.16131	4.54E-02	3.22E-02	6.633E-03	5.988E-03
0.21633	5.39E-02	3.94E-02	7.236E-03	6.283E-03
0.28932	6.58E-02	4.94E-02	8.211E-03	6.747E-03
0.38597	8.30E-02	6.30E-02	9.967E-03	7.510E-03
0.51375	1.08E-01	8.08E-02	1.383E-02	8.878E-03

Table 6

ϕ	Y_{1111}	Y_{1122}	Y_{1212}	Y_{3131}
0.00102	2.02E-02	9.51E-03	5.227E-03	5.464E-03
0.01021	2.53E-02	1.36E-02	5.141E-03	5.302E-03
0.02521	3.01E-02	1.72E-02	5.076E-03	5.222E-03
0.04734	3.57E-02	2.10E-02	5.037E-03	5.196E-03
0.06947	4.05E-02	2.41E-02	5.034E-03	5.216E-03
0.10194	4.69E-02	2.79E-02	5.070E-03	5.289E-03
0.12515	5.12E-02	3.03E-02	5.119E-03	5.363E-03
0.14959	5.56E-02	3.25E-02	5.189E-03	5.457E-03
0.18582	6.22E-02	3.54E-02	5.326E-03	5.629E-03
0.21951	6.78E-02	3.75E-02	5.480E-03	5.806E-03
0.27886	7.77E-02	4.07E-02	5.839E-03	6.193E-03
0.32211	8.45E-02	4.24E-02	6.178E-03	6.534E-03
0.41626	9.85E-02	4.61E-02	7.218E-03	7.492E-03
0.47267	1.08E-01	5.15E-02	8.139E-03	8.252E-03

Table 7

ϕ	Y_{1111}	Y_{1212}	Y_{3131}
0.00087	4.49E-02	2.141E-02	2.376E-02
0.01173	4.70E-02	2.171E-02	2.369E-02
0.02339	4.93E-02	2.204E-02	2.366E-02
0.03284	5.10E-02	2.232E-02	2.368E-02
0.04592	5.34E-02	2.270E-02	2.375E-02
0.06398	5.65E-02	2.324E-02	2.392E-02
0.08886	6.07E-02	2.399E-02	2.425E-02
0.12305	6.62E-02	2.507E-02	2.485E-02
0.17003	7.35E-02	2.665E-02	2.592E-02
0.23461	8.28E-02	2.907E-02	2.781E-02
0.32350	9.49E-02	3.309E-02	3.129E-02
0.44610	1.14E-01	4.068E-02	3.829E-02
0.61555	1.55E-01	5.947E-02	5.559E-02

Table 8

ϕ	Y_{1111}	Y_{1212}	Y_{3131}
0.00027	1.07E-02	1.305E-03	1.331E-03
0.00710	1.30E-02	1.318E-03	1.330E-03
0.02373	1.62E-02	1.347E-03	1.341E-03
0.04263	1.89E-02	1.380E-03	1.358E-03
0.05697	2.07E-02	1.406E-03	1.373E-03
0.07602	2.30E-02	1.441E-03	1.394E-03
0.10141	2.58E-02	1.489E-03	1.425E-03
0.13544	2.91E-02	1.557E-03	1.471E-03
0.18158	3.29E-02	1.657E-03	1.543E-03
0.24480	3.66E-02	1.808E-03	1.661E-03
0.33185	4.12E-02	2.057E-03	1.866E-03
0.45200	4.87E-02	2.525E-03	2.263E-03
0.61807	6.43E-02	3.666E-03	3.220E-03

Table 9

ϕ	Y_{1111}	Y_{1212}	Y_{3131}
0.21430E-09	0.3785E-02	0.3704E-05	0.3704E-05
0.15002E-03	0.4834E-02	0.3704E-05	0.3704E-05
0.51893E-03	0.5569E-02	0.3706E-05	0.3705E-05
0.14905E-02	0.6494E-02	0.3711E-05	0.3708E-05
0.29834E-02	0.7286E-02	0.3718E-05	0.3712E-05
0.51341E-02	0.8102E-02	0.3727E-05	0.3719E-05
0.77450E-02	0.8840E-02	0.3739E-05	0.3726E-05
0.10146E-01	0.9500E-02	0.3750E-05	0.3734E-05
0.17393E-01	0.1095E-01	0.3784E-05	0.3755E-05
0.29785E-01	0.1225E-01	0.3842E-05	0.3793E-05
0.50967E-01	0.1419E-01	0.3946E-05	0.3860E-05

Table 10

ϕ	$V_{\parallel}^{\text{tr}}$	V_{\perp}^{tr}	$V_{\parallel}^{\text{ro}}$	V_{\perp}^{ro}
0.00000	0.4610E+01	0.3276E+01	0.9327E+02	0.6808E+01
0.03025	0.1783E+01	0.1221E+01	0.9004E+02	0.9141E+01
0.04931	0.1455E+01	0.9773E+00	0.8797E+02	0.1030E+02
0.07985	0.1135E+01	0.7273E+00	0.8475E+02	0.1176E+02
0.10145	0.9803E+00	0.6050E+00	0.8247E+02	0.1256E+02
0.12884	0.8321E+00	0.4909E+00	0.7963E+02	0.1334E+02
0.16367	0.6914E+00	0.3939E+00	0.7607E+02	0.1401E+02
0.20815	0.5602E+00	0.3303E+00	0.7162E+02	0.1443E+02
0.26515	0.4419E+00	0.3219E+00	0.6605E+02	0.1445E+02
0.33841	0.3446E+00	0.3976E+00	0.5903E+02	0.1389E+02
0.43279	0.2836E+00	0.5909E+00	0.5011E+02	0.1263E+02
0.55455	0.2762E+00	0.9183E+00	0.3867E+02	0.1070E+02
0.71180	0.3404E+00	0.1392E+01	0.2385E+02	0.8134E+01

Table 11

ϕ	$V_{\parallel}^{\text{tr}}$	V_{\perp}^{tr}	$V_{\parallel}^{\text{ro}}$	V_{\perp}^{ro}
0.00000	0.4610E+01	0.3276E+01	0.9327E+02	0.6808E+01
0.00538	0.2819E+01	0.2086E+01	0.9271E+02	0.7454E+01
0.00982	0.2440E+01	0.1872E+01	0.9214E+02	0.8094E+01
0.02587	0.1829E+01	0.1500E+01	0.9023E+02	0.9960E+01
0.04832	0.1416E+01	0.1214E+01	0.8758E+02	0.1210E+02
0.08889	0.1020E+01	0.9096E+00	0.8288E+02	0.1521E+02
0.16132	0.6736E+00	0.6008E+00	0.7466E+02	0.1945E+02
0.21633	0.5326E+00	0.4580E+00	0.6850E+02	0.2194E+02
0.28932	0.4239E+00	0.3340E+00	0.6041E+02	0.2449E+02
0.38597	0.3592E+00	0.2414E+00	0.4979E+02	0.2662E+02
0.51375	0.3533E+00	0.1988E+00	0.3587E+02	0.2695E+02

Table 12

ϕ	$H_{\parallel}^{\text{tr}}$	H_{\perp}^{tr}	$H_{\parallel}^{\text{ro}}$	H_{\perp}^{ro}
0.0000E00	0.4099E+1	0.2991E+1	0.5167E+2	0.5939E+1
0.5007E-2	0.3539E+1	0.2406E+1	0.5164E+2	0.5898E+1
0.8111E-2	0.3428E+1	0.2273E+1	0.5161E+2	0.5861E+1
0.1029E-1	0.3363E+1	0.2196E+1	0.5159E+2	0.5832E+1
0.1303E-1	0.3307E+1	0.2104E+1	0.5156E+2	0.5808E+1
0.1646E-1	0.3225E+1	0.2015E+1	0.5152E+2	0.5761E+1
0.2075E-1	0.3135E+1	0.1919E+1	0.5146E+2	0.5700E+1
0.2611E-1	0.3037E+1	0.1817E+1	0.5139E+2	0.5621E+1
0.5626E-1	0.2630E+1	0.1433E+1	0.5089E+2	0.5171E+1
0.9500E-1	0.2284E+1	0.1135E+1	0.5013E+2	0.4673E+1
0.1597E00	0.1879E+1	0.8356E00	0.4865E+2	0.4000E+1

Table 12: Hindered diffusivities for *efc*-crystals of spheroids with $r_p = 6$ constructed using 32 particles per unit cell.

The basis vectors for this lattice at $\phi = 0.056259$ are given by the column vectors of

$$\mathbf{B} = \begin{pmatrix} 2 & -2 & 4 \\ -2/\sqrt{3} & \sqrt{12} & 0 \\ -4.77631 & 0 & 0 \end{pmatrix} .$$

The spheroids are aligned with the “3” axis and are arranged in two stacks of 4 by 4. For comparison, at the same concentration,

$D_{\parallel}^{\text{tr}}$	D_{\perp}^{tr}	$D_{\parallel}^{\text{ro}}$	D_{\perp}^{ro}
2.9792	2.0210	51.394	5.8188
$V_{\parallel}^{\text{tr}}$	V_{\perp}^{tr}	$V_{\parallel}^{\text{ro}}$	V_{\perp}^{ro}
1.2797	0.87518	48.415	7.6835

These properties have not been corrected for the periodicity effect.