Supplementary

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TABLES

Table S1. Fractionation of monodisperse ternary (component *A*, *B*, and *C*) non-additive hard sphere mixtures with size ratio $q_{AB} = \sigma_A/\sigma_B = 1/4$ and $q_{AC} = \sigma_A/\sigma_C = 1/3$, with non-additivity parameters: $\Delta_{AB} = 0.1$, Δ_{AC} and Δ_{BC} varying from -0.1 to 0.1, label referring to **Figure 3-11**, fixed parent phase: $\eta(0.05, 0.20, 0.10)$, see also Figure 12a.

Mixture	Top phase	Bottom phase
4.3	η (0.061, 0.054, 0.104) a: 0.733	η (0.021, 0.602, 0.089) a: 0.267
4.4	η (0.060, 0.046, 0.117) a: 0.770	η (0.017, 0.716, 0.043) a: 0.223
4.5	η (0.063, 0.044, 0.087) a: 0.682	η (0.022, 0.534, 0.127) a: 0.318
4.6	η (0.060, 0.055, 0.107) a: 0.749	η (0.020, 0.633, 0.080) a: 0.251
4.7	η (0.069, 0.020, 0.049) a: 0.611	η (0.020, 0.483, 0.180) a: 0.389
4.8	η (0.066, 0.034, 0.073) a: 0.622	η (0.024, 0.473, 0.145) a: 0.378
4.9	η (0.060, 0.027, 0.126) a: 0.779	η (0.014, 0.808, 0.010) a: 0.222
4.10	η (0.059, 0.040, 0.121) a: 0.790	η (0.015, 0.803, 0.020) a: 0.210
4.11	η (0.059, 0.057, 0.113) a: 0.787	η (0.017, 0.731, 0.052) a: 0.213

Table S2. Fractionation of monodisperse ternary (component *A*, *B*, and *C*) non-additive hard sphere mixtures with size ratio $q_{AB} = \sigma_A/\sigma_B = 1/4$ and $q_{AC} = \sigma_A/\sigma_C = 1/3$, with non-additivity parameters: $\Delta_{AB} = 0.1$, Δ_{AC} and Δ_{BC} variying from -0.1 to 0.1, label refering to **Figure 3-11**, fixed parent phase: $\eta(0.05, 0.20, 0.25)$, see also **Figure 12b**

Mixture	**Top phase**	**Bottom phase**
4.3	η (0.060, 0.054, 0.257) a: 0.742	η (0.020, 0.619, 0.230) a: 0.258
4.4	η (0.059, 0.040, 0.284) a: 0.813	η (0.013, 0.894, 0.105) a: 0.187
4.5	η (0.065, 0.037, 0.223) a: 0.644	η (0.023, 0.495, 0.298) a: 0.356
4.6	η (0.059, 0.057, 0.265) a: 0.788	η (0.018, 0.715, 0.195) a: 0.217
4.7	η (0.084, 0.003, 0.086) a: 0.468	η (0.020, 0.373, 0.394) a: 0.532
4.8	η (0.085, 0.007, 0.103) a: 0.406	η (0.026, 0.332, 0.350) a: 0.594
4.9	η (0.059, 0.012, 0.300) a: 0.827	η (0.009, 1.097, 0.013) a: 0.173
4.10	η (0.058, 0.023, 0.294) a: 0.838	η (0.009, 1.116, 0.023) a: 0.162
4.11	η (0.057, 0.048, 0.284) a: 0.855	η (0.011, 1.095, 0.050) a: 0.145

Table S3. Fractionation of monodisperse ternary (component *A*, *B*, and *C*) non-additive hard sphere mixtures with size ratio $q_{AB} = \sigma_A/\sigma_B = 1/4$ and $q_{AC} = \sigma_A/\sigma_C = 1/3$, with non-additivity parameters: $\Delta_{AB} = 0.1$, Δ_{AC} and Δ_{BC} variying from -0.1 to 0.1, label refering to **Figure 3-11**, fixed parent phase: $\eta(0.10, 0.20, 0.10)$, see also Figure 13a

Mixture	**Top phase**	**Middle phase**	**Bottom phase**
4.3	η (0.116, 0.001, 0.102) a: 0.852		η (0.009, 1.345, 0.089) a: 0.148
4.4	η (0.115, 0.001, 0.113) a: 0.864		η (0.007, 1.461, 0.015) a: 0.136
4.5	η (0.119, 0.001, 0.070) a: 0.823		η (0.010, 1.125, 0.240) a: 0.177
4.6	η (0.116, 0.001, 0.104) a: 0.854		η (0.008, 1.367, 0.080) a: 0.146
4.7	η (0.126, 0.000, 0.013) a: 0.774		η (0.010, 0.886, 0.398) a: 0.226
4.8	η (0.127, 0.000, 0.026) a: 0.766		η (0.013, 0.855, 0.344) a: 0.234
4.9	η (0.114, 0.001, 0.115) a: 0.866		η (0.007, 1.489, 0.001) a: 0.134
4.10	η (0.114, 0.001, 0.114) a: 0.869		η (0.007, 1.517, 0.005) a: 0.131
4.11	η (0.123, 0.001, 0.051) a: 0.778	η (0.035, 0.044, 0.636) a: 0.087	η (0.008, 1.451, 0.036) a: 0.135

Table S4. Fractionation of monodisperse ternary (component *A*, *B*, and *C*) non-additive hard sphere mixtures with size ratio $q_{AB} = \sigma_A/\sigma_B = 1/4$ and $q_{AC} = \sigma_A/\sigma_C = 1/3$, with non-additivity parameters: $\Delta_{AB} = 0.1$, Δ_{AC} and Δ_{BC} variying from -0.1 to 0.1, label refering to **Figure 3-11**, fixed parent phase: $\eta(0.05, 0.10, 0.10)$, see also **Figure 13b**

Mixture	**Top phase**	**Bottom phase**
4.3		η (0.050, 0.100, 0.100) a: 1
4.4	η (0.051, 0.083, 0.102) a: 0.964	η (0.021, 0.561 0.050) a: 0.036
4.5		η (0.050, 0.100, 0.100) a: 1
4.6		η (0.050, 0.100, 0.100) a: 1
4.7	η (0.056, 0.047, 0.082) a: 0.803	η (0.027, 0.315, 0.172) a: 0.197
4.8	η (0.051, 0.091, 0.099) a: 0.956	η (0.032, 0.289, 0.132) a: 0.044
4.9	η (0.053, 0.047, 0.108) a: 0.915	η (0.016, 0.675, 0.014) a: 0.085
4.10	η (0.052, 0.067, 0.104) a: 0.944	η (0.018, 0.661, 0.026) a: 0.056
4.11	η (0.050, 0.098, 0.100) a: 0.996	η (0.021, 0.573, 0.057) a: 0.004

FRACTIONATION

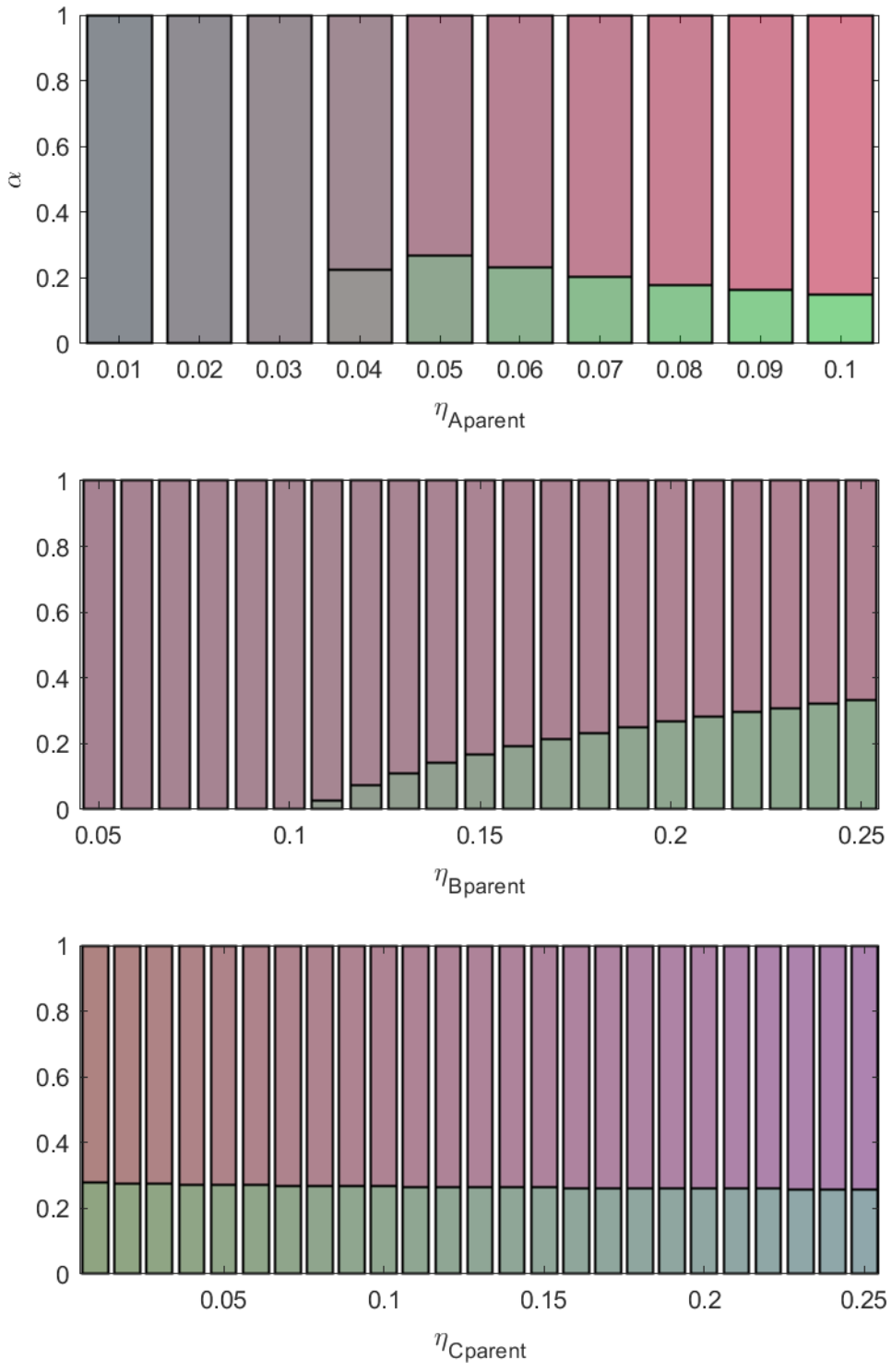


Figure S1. Fractionation of monodisperse ternary (component A, B, and C) non-additive hard sphere mixture with size ratio $q_{AB} = \sigma_A/\sigma_B = 1/4$ and $q_{AC} = \sigma_A/\sigma_C = 1/3$, with non-additivity parameters: $\Delta_{AB} = 0.1$, $\Delta_{AC} = -0.1$, and $\Delta_{BC} = -0.1$, fixed parent phase: $\eta(0.05, 0.20, 0.10)$, adjusting A, B, resp. C with $\eta = 0.01$, A is red, B is green , C is blue

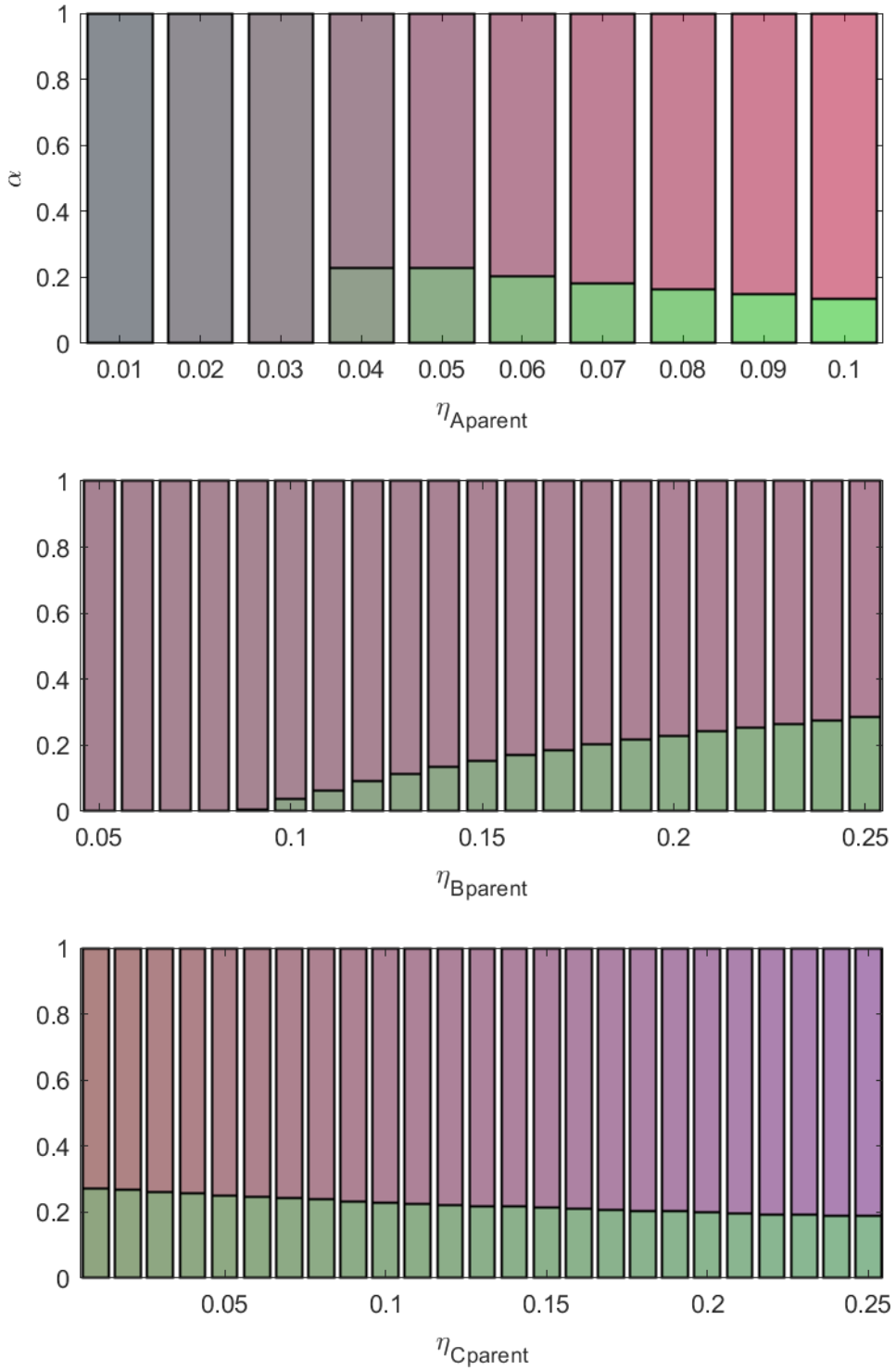


Figure S2. Fractionation of monodisperse ternary (component A, B, and C) non-additive hard sphere mixture with size ratio $q_{AB} = \sigma_A/\sigma_B = 1/4$ and $q_{AC} = \sigma_A/\sigma_C = 1/3$, with non-additivity parameters: $\Delta_{AB} = 0.1$, $\Delta_{AC} = -0.1$, and $\Delta_{BC} = 0$, fixed parent phase: $\eta(0.05, 0.20, 0.10)$, A is red, B is green , C is blue

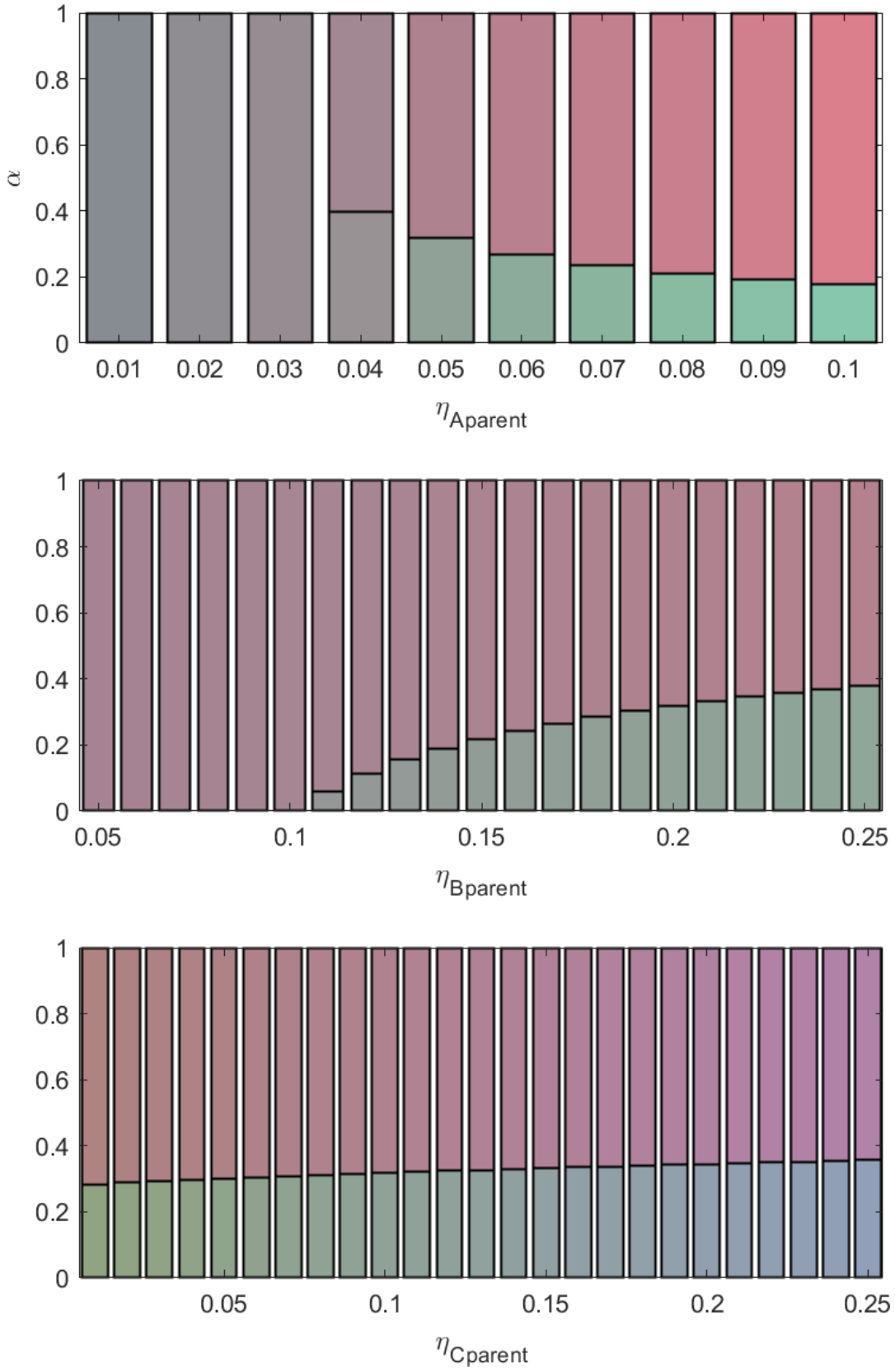


Figure S3. Fractionation of monodisperse ternary (component A, B, and C) non-additive hard sphere mixture with size ratio $q_{AB} = \sigma_A/\sigma_B = 1/4$ and $q_{AC} = \sigma_A/\sigma_C = 1/3$, with non-additivity parameters: $\Delta_{AB} = 0.1$, $\Delta_{AC} = 0$, and $\Delta_{BC} = -0.1$, fixed parent phase: $\eta(0.05, 0.20, 0.10)$, A is red, B is green , C is blue

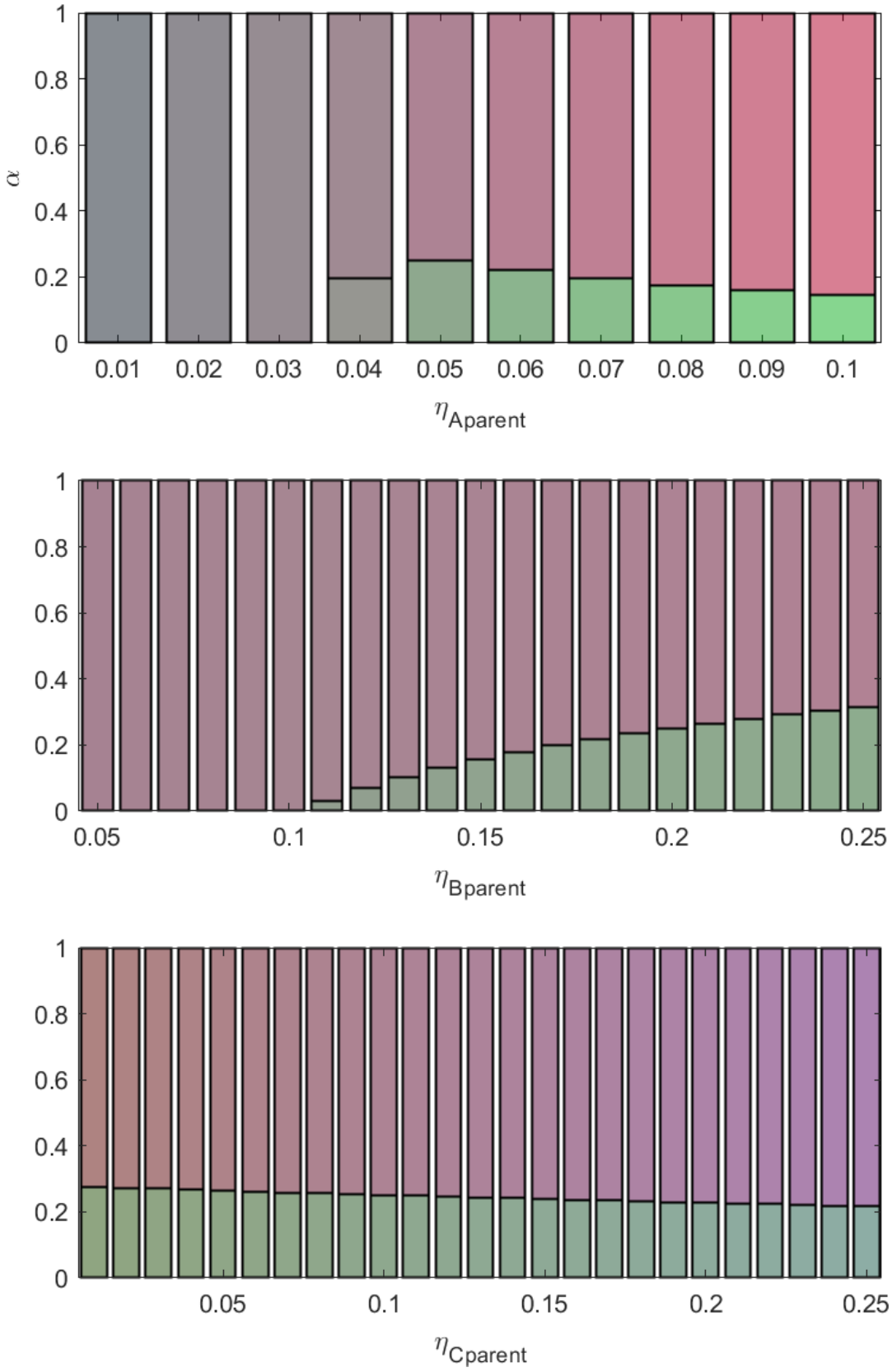


Figure S4. Fractionation of monodisperse ternary (component A, B, and C) non-additive hard sphere mixture with size ratio $q_{AB} = \sigma_A/\sigma_B = 1/4$ and $q_{AC} = \sigma_A/\sigma_C = 1/3$, with non-additivity parameters: $\Delta_{AB} = 0.1$, $\Delta_{AC} = 0$, and $\Delta_{BC} = 0$, fixed parent phase: $\eta(0.05, 0.20, 0.10)$, adjusting A, B, resp. C with $\eta = 0.01$, A is red, B is green, and C is blue

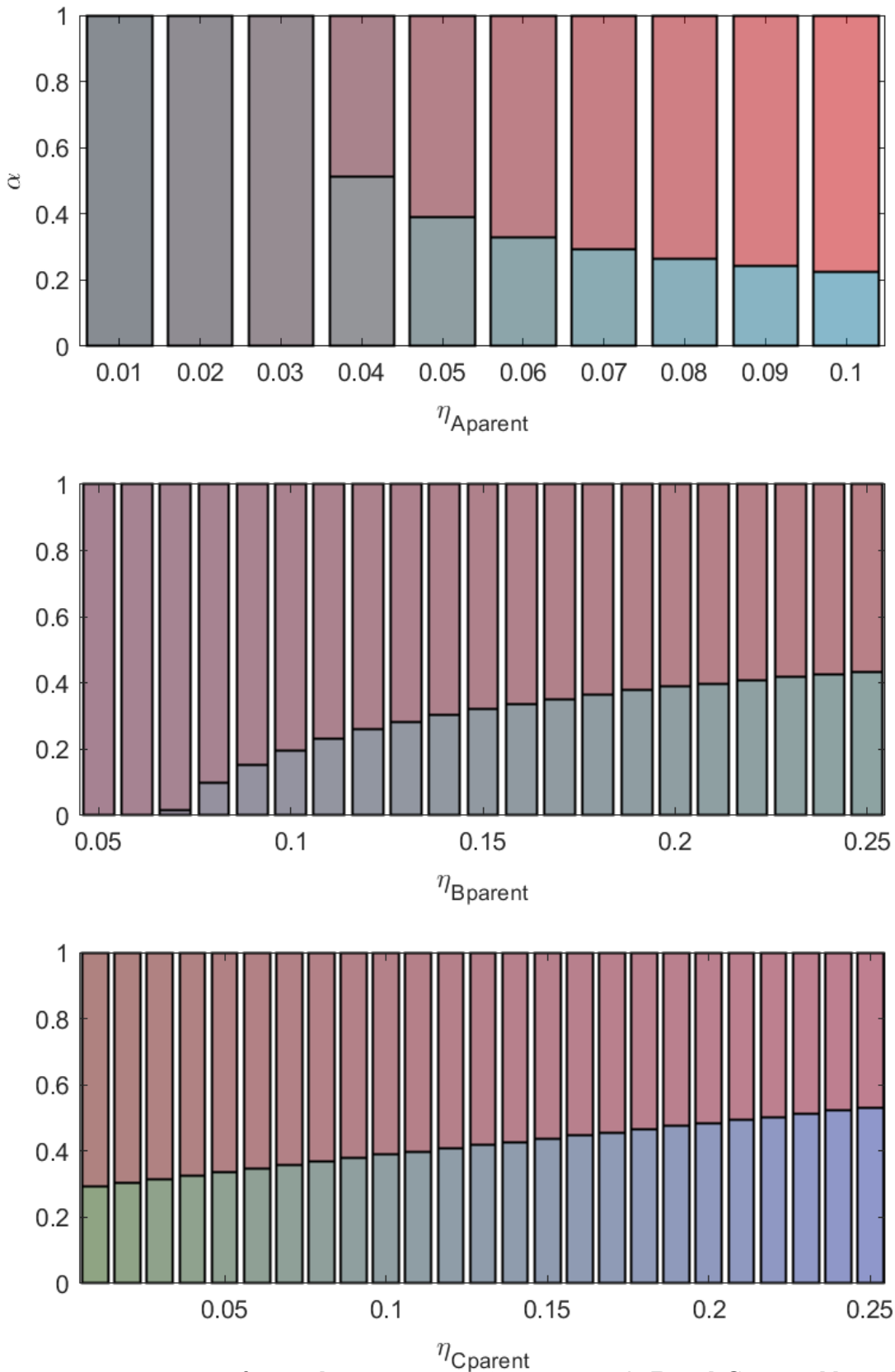


Figure S5. Fractionation of monodisperse ternary (component A, B, and C) non-additive hard sphere mixture with size ratio $q_{AB} = \sigma_A/\sigma_B = 1/4$ and $q_{AC} = \sigma_A/\sigma_C = 1/3$, with non-additivity parameters: $\Delta_{AB} = 0.1$, $\Delta_{AC} = 0.1$, and $\Delta_{BC} = -0.1$, fixed parent phase: $\eta(0.05, 0.20, 0.10)$, adjusting A, B, resp. C with $\eta = 0.01$, A is red, B is green, and C is blue

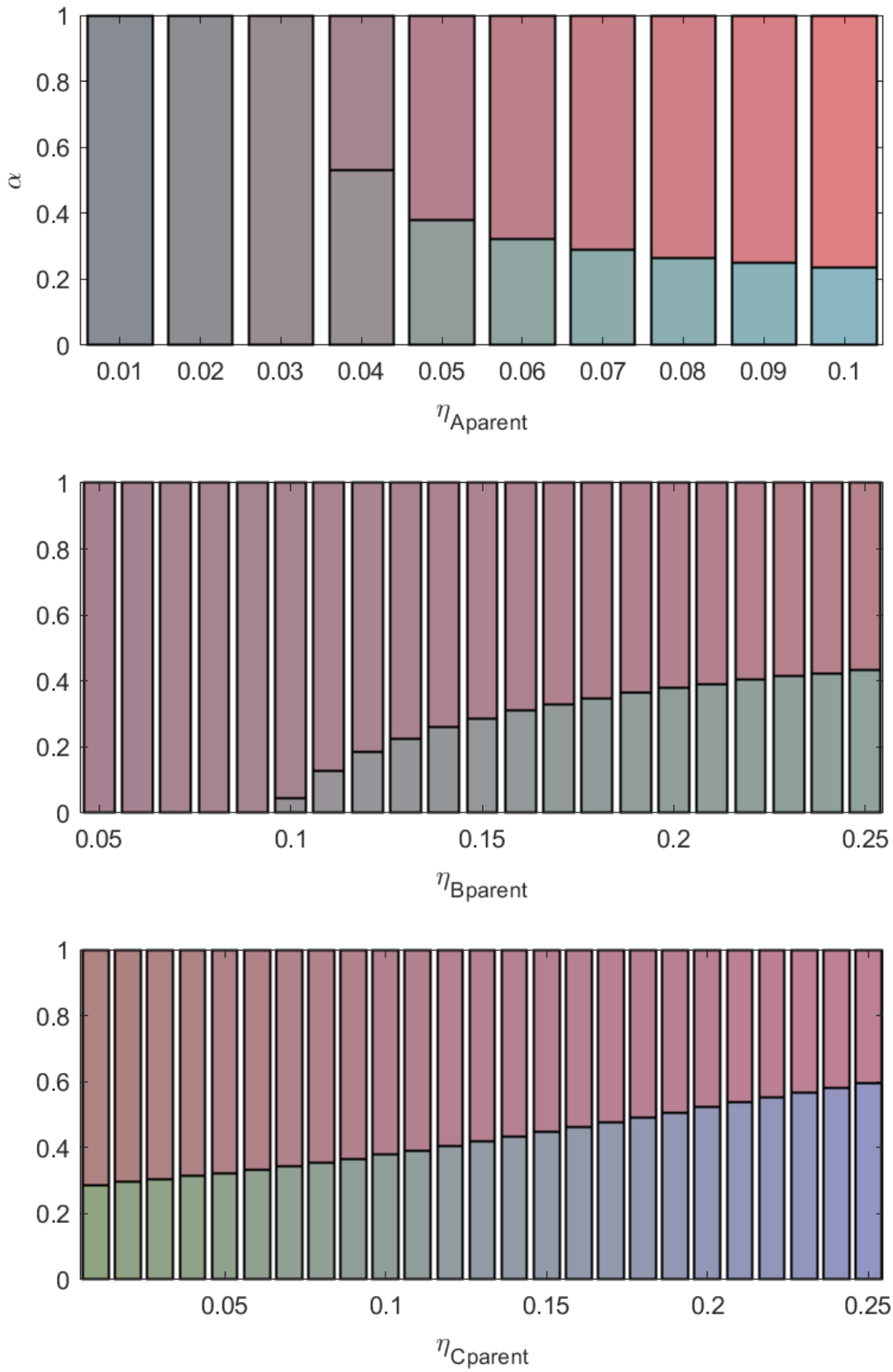


Figure S6. Fractionation of monodisperse ternary (component A, B, and C) non-additive hard spheremixture with size ratio $q_{AB} = \sigma_A/\sigma_B = 1/4$ and $q_{AC} = \sigma_A/\sigma_C = 1/3$, with non-additivity parameters: $\Delta_{AB} = 0.1$, $\Delta_{AC} = 0.1$, and $\Delta_{BC} = 0$, fixed parent phase: $\eta(0.05, 0.20, 0.10)$, adjusting A, B, resp. C with $\eta = 0.01$, A is red, B is green, and C is blue

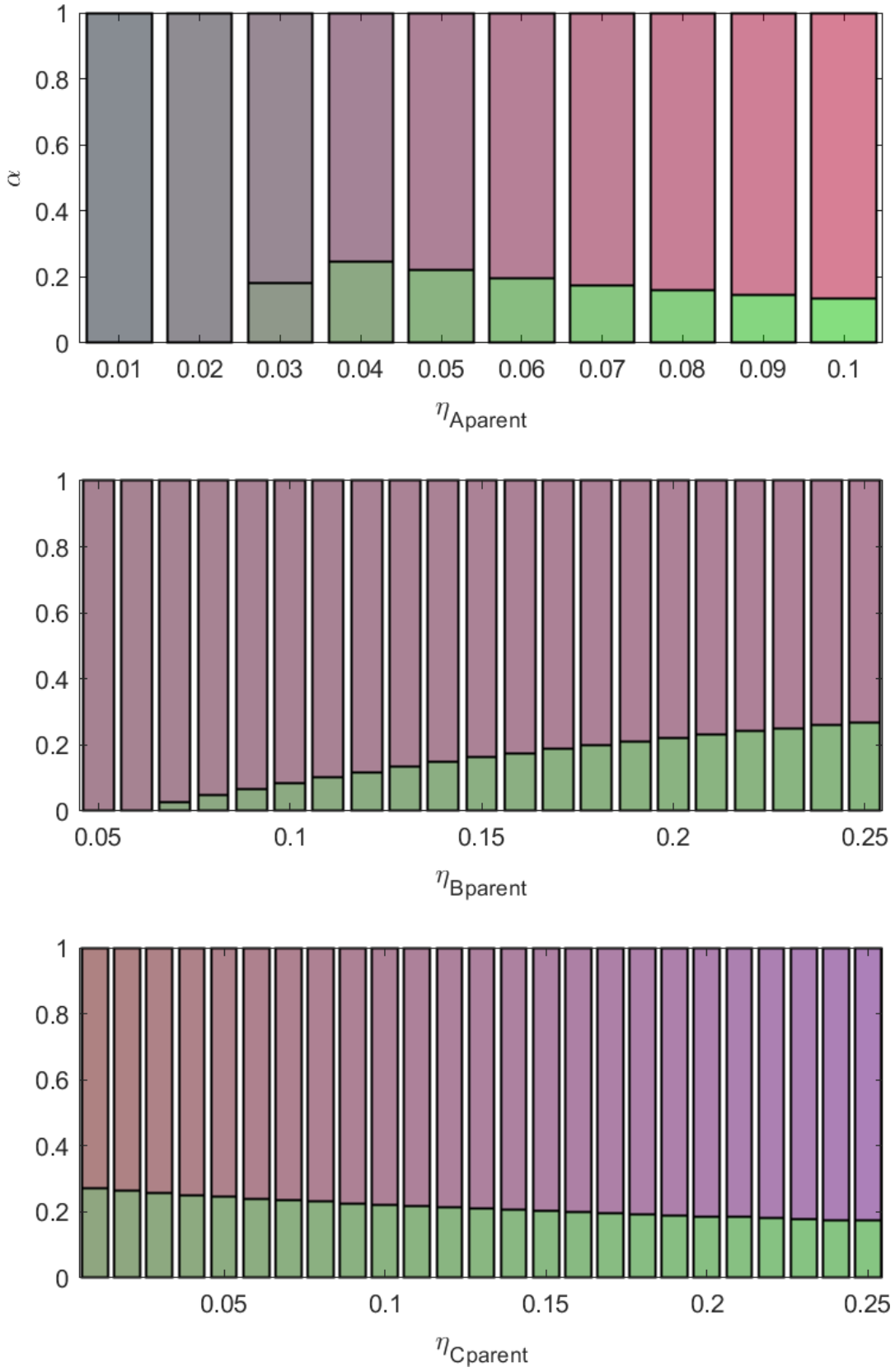


Figure S7. Fractionation of monodisperse ternary (component A, B, and C) non-additive hard sphere mixture with size ratio $q_{AB} = \sigma_A/\sigma_B = 1/4$ and $q_{AC} = \sigma_A/\sigma_C = 1/3$, with non-additivity parameters: $\Delta_{AB} = 0.1$, $\Delta_{AC} = -0.1$, and $\Delta_{BC} = 0.1$, fixed parent phase: $\eta(0.05, 0.20, 0.10)$, adjusting A, B, resp. C with $\eta = 0.01$, A is red, B is green, and C is blue

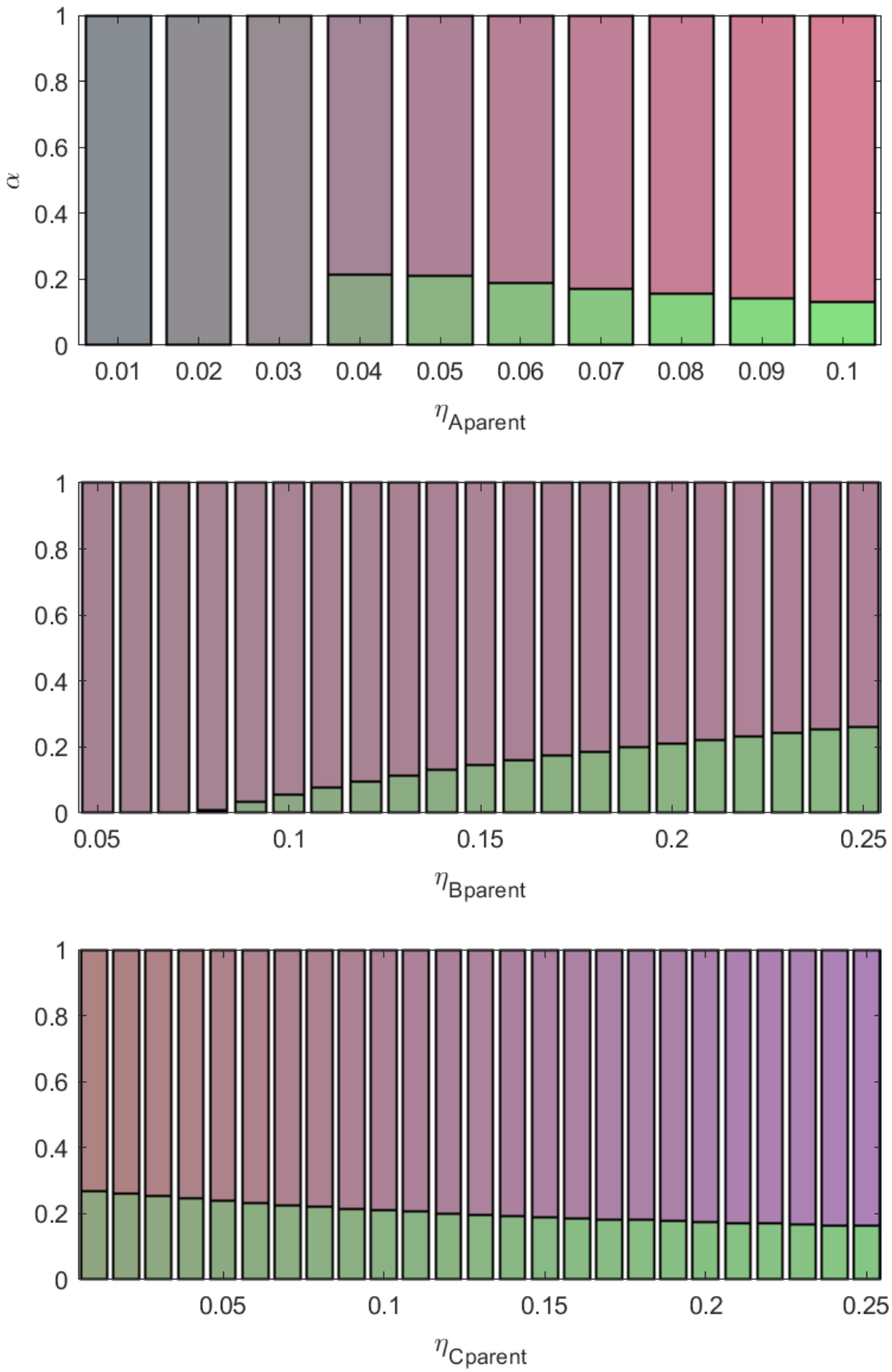


Figure S8. Fractionation of monodisperse ternary (component A, B, and C) non-additive hard sphere mixture with size ratio qAB = σA/σB = 1/4 and qAC = σA/σC = 1/3, with non-additivity parameters: ΔAB = 0.1, ΔAC = 0, and ΔBC = 0.1, fixed parent phase : η(0.05, 0.20, 0.10), adjusting A, B, resp. C with η = 0.01, A is red , B is green, and C is blue

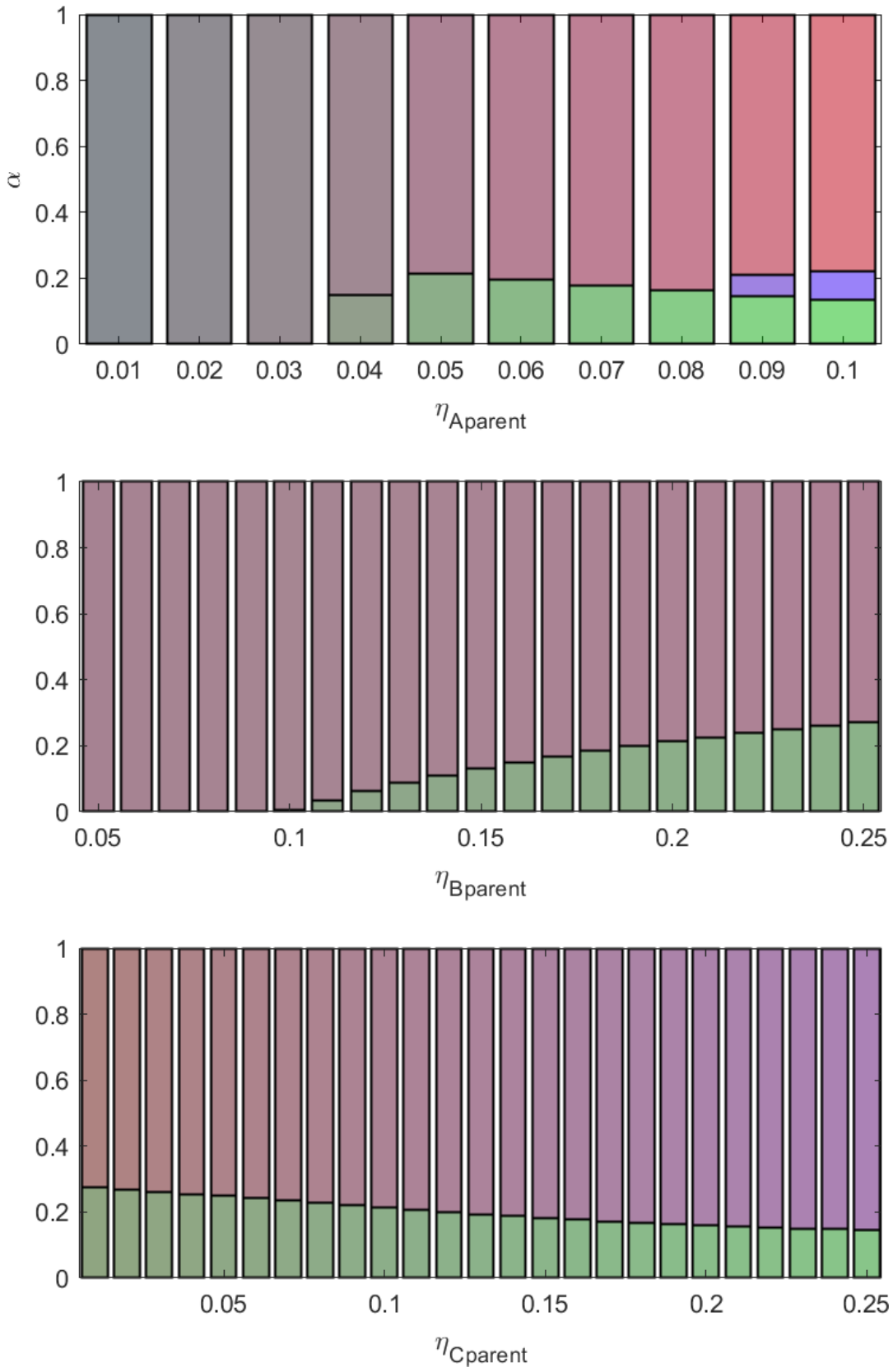


Figure S9. Fractionation of monodisperse ternary (component *A*, *B*, and *C*) non-additive hard sphere mixture with size ratio $q_{AB} = \sigma_A/\sigma_B = 1/4$ and $q_{AC} = \sigma_A/\sigma_C = 1/3$, with non-additivity parameters: $\Delta_{AB} = 0.1$, $\Delta_{AC} = 0.1$, and $\Delta_{BC} = 0.1$, fixed parent phase: $\eta(0.05, 0.20, 0.10)$, adjusting *A*, *B*, resp. *C* with $\eta = 0.01$, ■ *A* is red, ■ *B* is green, and ■ *C* is blue