Electric Supplementary Information (ESI)

PEGMAs with Short and Long-Side Chains: What is the Kinetic Effect in the Formation of Stars and Brushes by RAFT Polymerization?

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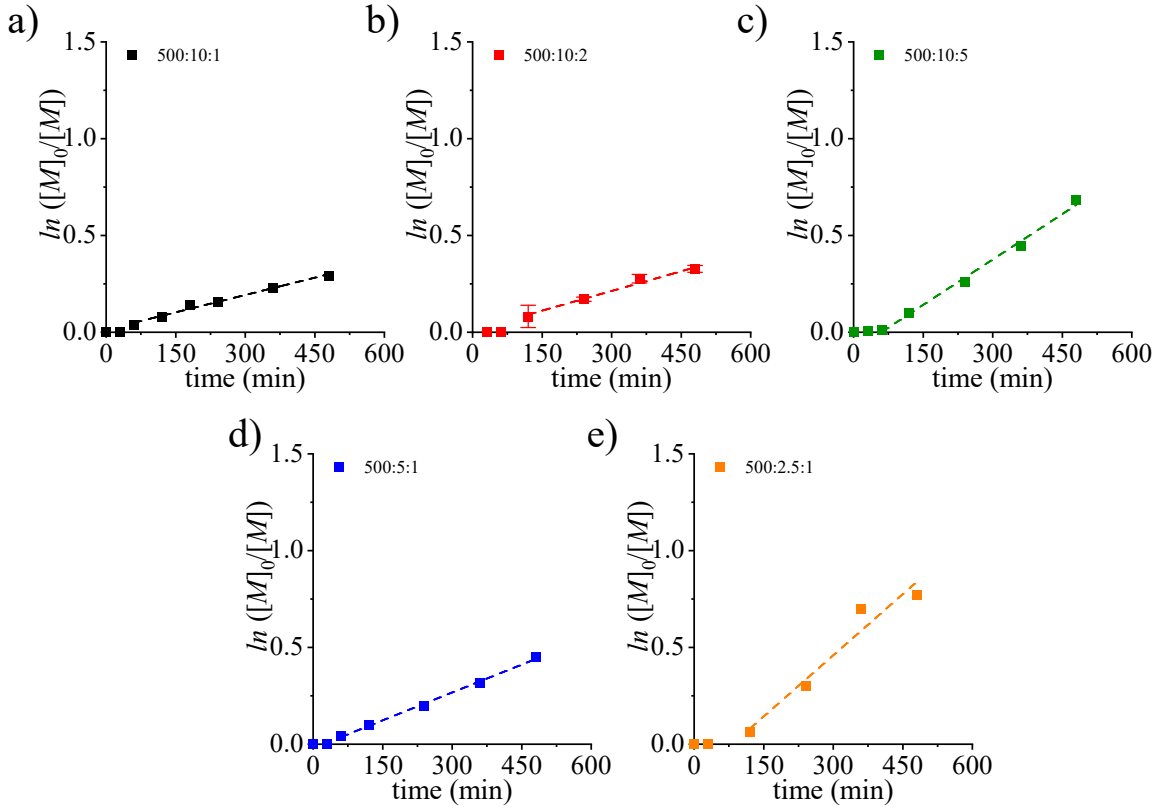
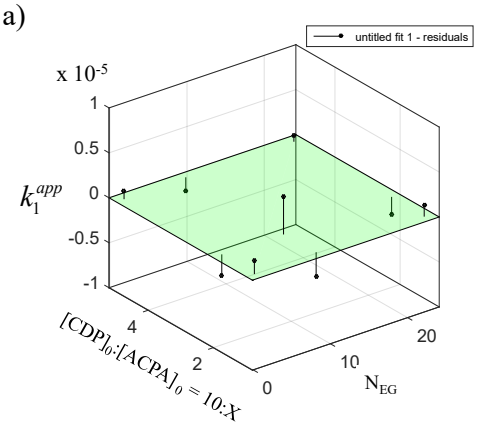


Figure S1. *First*-order rate plots of the CPD-mediated polymerization of $PEGMA_{23}$ in ethanol at 70 °C during 500 min, varying the $[ACPA]_0$ (a-c) and $[CDP]_0$ (a, d, e), as shown in the labels $[PEGMA_{23}]_0$:$[CDP]_0$:$[ACPA]_0$, dashed lines show the linear regressions.

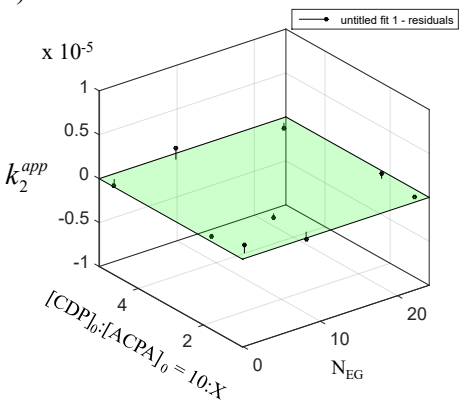
a)



General model:
f(x,y) = p0+p1*x+p2*y+p3*x*y+p4*log(x)+p5*log(y)
Coefficients (with 95% confidence bounds):
p0 = 3.807e-06 (-9.99e-06, 1.76e-05)
p1 = -1.172e-06 (-2.507e-06, 1.624e-07)
p2 = 1.526e-06 (-1.035e-05, 1.34e-05)
p3 = -2.832e-08 (-2.819e-07, 2.253e-07)
p4 = 1.009e-05 (2.131e-06, 1.805e-05)
p5 = 6.528e-06 (-2.323e-05, 3.629e-05)

Goodness of fit:
SSE: 4.095e-11
R-square: 0.9355
Adjusted R-square: 0.828
RMSE: 3.695e-06

b)

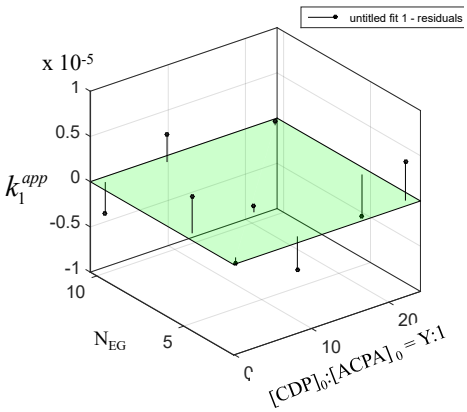


General model:
f(x,y) = p0+p1*x+p2*y+p3*x*y+p4*log(x)+p5*log(y)
Coefficients (with 95% confidence bounds):
p0 = 3.335e-06 (-1.148e-06, 7.818e-06)
p1 = -3.365e-07 (-7.702e-07, 9.726e-08)
p2 = -1.04e-06 (-4.898e-06, 2.818e-06)
p3 = 2.885e-08 (-5.357e-08, 1.113e-07)
p4 = 3.862e-06 (1.275e-06, 6.45e-06)
p5 = 2.533e-06 (-7.137e-06, 1.22e-05)

Goodness of fit:
SSE: 4.324e-12
R-square: 0.9523
Adjusted R-square: 0.8728
RMSE: 1.201e-06

Figure S2. Behavior of the residual graphs of the nonlinear regression with the variation of ***n*** units and $[ACPA]_0$ for: a) k_1^{app} and b) k_2^{app}.

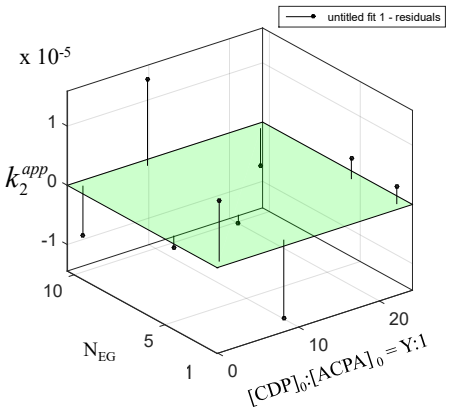
a)



General model:
f(x,y) = p0+p1*x+p2*y+p3*x*y+p4*log(x)+p5*log(y)
Coefficients (with 95% confidence bounds):
p0 = 4.418e-05 (7.764e-06, 8.059e-05)
p1 = -7.518e-08 (-2.144e-06, 1.993e-06)
p2 = 1.167e-06 (-8.876e-06, 1.121e-05)
p3 = -7.88e-09 (-2.114e-07, 1.956e-07)
p4 = 1.488e-06 (-1.023e-05, 1.321e-05)
p5 = -2.029e-05 (-7.423e-05, 3.364e-05)

Goodness of fit:
SSE: 8.872e-11
R-square: 0.874
Adjusted R-square: 0.664
RMSE: 5.438e-06

b)



General model:
f(x,y) = p0+p1*x+p2*y+p3*x*y+p4*log(x)+p5*log(y)
Coefficients (with 95% confidence bounds):
p0 = 8.346e-05 (-1.286e-05, 0.0001798)
p1 = -7.317e-07 (-6.203e-06, 4.739e-06)
p2 = -4.869e-06 (-3.143e-05, 2.169e-05)
p3 = 3.452e-07 (-1.93e-07, 8.835e-07)
p4 = -1.832e-05 (-4.932e-05, 1.268e-05)
p5 = -1.144e-05 (-0.0001541, 0.0001312)

Goodness of fit:
SSE: 6.207e-10
R-square: 0.8486
Adjusted R-square: 0.5962
RMSE: 1.438e-05

Figure S3. Behavior of the residual graphs of the nonlinear regression with the variation of ***n*** units and $[CDP]_0$ for: a) k_1^{app} and b) k_2^{app}.