

Characterization of UV-cured methacrylate networks: from photopolymerization to ultimate mechanical properties

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Supporting Information

A sensitivity study is performed for the model to illustrate the effect of changing model and fitting parameters on the model prediction. Fig. S1 shows the effect of changing $k_{p0}/k_{t0}^{0.5}$ on the prediction of monomer conversion. It can be seen that the initial slope of the curve changes, whereas the shape of the curve stays the same. In Fig. S2 the change in k_p , k_t and initiator efficiency, f , is shown with respect to their initial values as function of conversion.

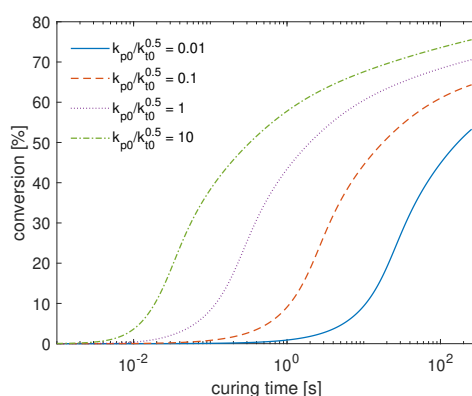


Figure S1: Effect of changing $k_{p0}/k_{t0}^{0.5}$, on the prediction of monomer conversion. The model parameters listed in Table 1 are used.

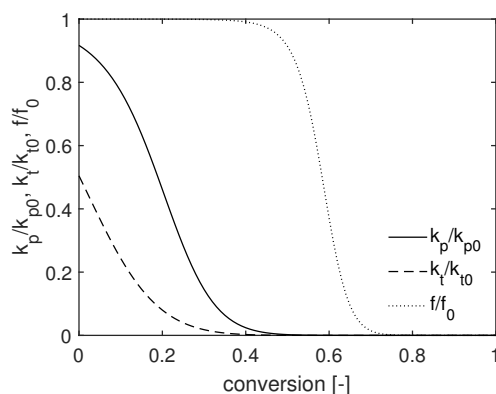


Figure S2: Conversion dependence of the rate constant of propagation, k_p , termination, k_t and initiator efficiency, f with respect to their initial values in the UV-cured resin. The model parameters listed in Table 1 are used.

In Fig. S3 the effect of changing the critical conversion for propagation and initiation, x_{crp} and x_{crl} respectively, on the monomer conversion is shown. The slope of the curves becomes less steep at lower

conversion for lower x_{crp} , which is logical because the propagation rate starts decreasing at lower x_{crp} , leading to a lower final conversion. A similar trend is observed for the x_{crf} , where the curves start to flatten out at a lower conversion for lower x_{crf} .

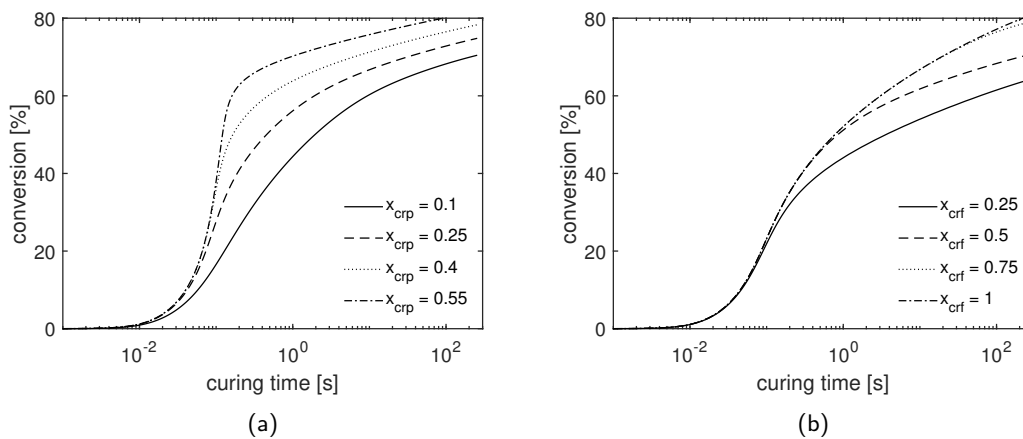


Figure S3: Sensitivity of fitting parameters: effect of changing x_{crp} (a) and x_{crf} (b) on the predicted monomer conversion. The model parameters listed in Table 1 are used.

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