Supplementary Information

Solvent Cage Effects: The Influence of Radical Mass and Volume on the Recombination Dynamics of Radical Cage Pairs Generated by Photolysis of $[CpCH_2CH_2N(CH_3)C(O)(CH_2)_nCH_3Mo(CO)_3]_2$ (n = 3, 8, 13, 18) (Cp = η^5-C_5H_4) Complexes.

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Table S1 Kinetic parameters for the photolysis and geminate recombination of substituted molybdenum dimers

Compound	τ_2 / ps	F_c	$k_c/10^{10}$ s^{-1}	$k_d/10^{10}$ s^{-1}
$[Cp'Mo(CO)_3]_2$	190 ± 15	0.48 ± 0.01	8.1 ± 0.6	8.1 ± 0.9
5	100 ± 15	0.42 ± 0.02	13 ± 2	18 ± 3
6	100 ± 10	0.55 ± 0.03	13 ± 2	11 ± 1
7	75 ± 10	0.44 ± 0.01	13 ± 1	17 ± 1
8	60 ± 10	0.43 ±0.02	11 ± 1	

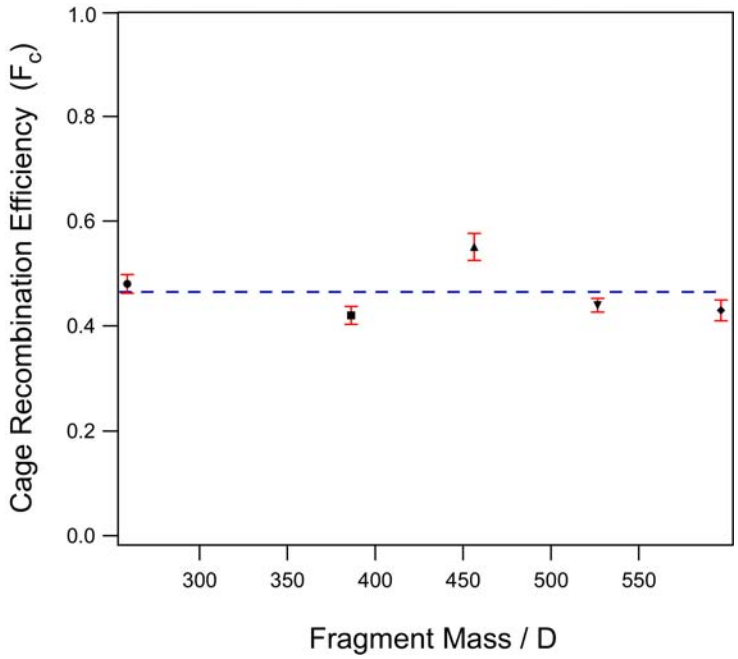

Fig. S1 A comparison of the caging efficiency (F_{cP}) vs. mass for the radical fragments created by photolysis of dimers **5** – **8** and $[Cp'Mo(CO)_3]_2$ in cyclohexane: ● = $[Cp'Mo(CO)_3]_2$, ■ = **5**, ▲ = **6**, ▼ = **7**, ♦ = **8**. The error bars represent one standard deviation as determined from propagating the error generated from the least-squares non-linear regression fit of the kinetic traces (eqs 1 and 2). The dashed-blue line represents the mean value of the five data points, $F_{cP} = 0.46$.