Supplementary Material for Chemical Communications

Stereodifferentiation in the formation and decay of the encounter complex in bimolecular electron transfer with photoactivated acceptors

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Supporting Information

S2: Transient absorption spectra of **(*R*)-1** in deaerated acetonitrile. Transient absorption spectra of **(*R*)-1** in deaerated dichloromethane.

S3: Transient absorption spectra in deaerated acetonitrile of **(*R*)-1** in the presence of **(*R*)-2.** Transient absorption spectra in deaerated acetonitrile of **(*R*)-1** in the presence of **(*R*)-3.**

S4: Transient absorption spectra in deaerated dichloromethane of **(*R*)-1** in the presence of **(*R*)-2.** Transient absorption spectra in deaerated dichloromethane of **(*R*)-1** in the presence of **(*R*)-3.**

S5-S12: Plots of the observed rate constant for the decay of **(*R*)-1** or **(*S*)-1** *versus* [**(*R*)-2** or **(*R*)-3**] either in acetonitrile or dichloromethane, their double-reciprocal evaluation according to equation 5 and comparison between the experimental values and the calculated line for several non-linear quenching plot based on the K_{EC} and k_d values recovered from the double-reciprocal plot.

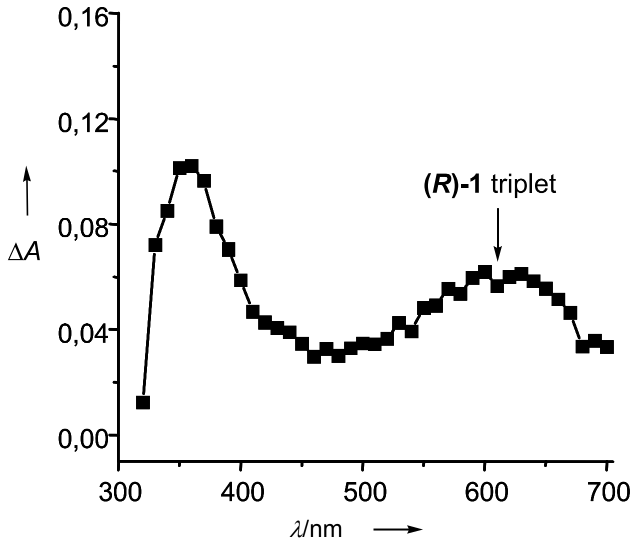

Figure S1: Transient absorption spectra of a deaerated acetonitrile solution of **(*R*)-1** (1.1 mM) obtained 0.2 μs after the laser pulse.

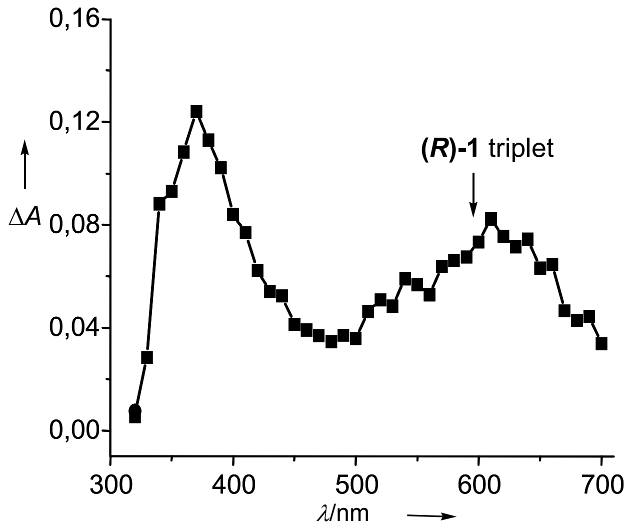

Figure S2: Transient absorption spectra of a deaerated dichloromethane solution of **(*R*)-1** (1.1 mM) obtained 0.2 μs after the laser pulse.

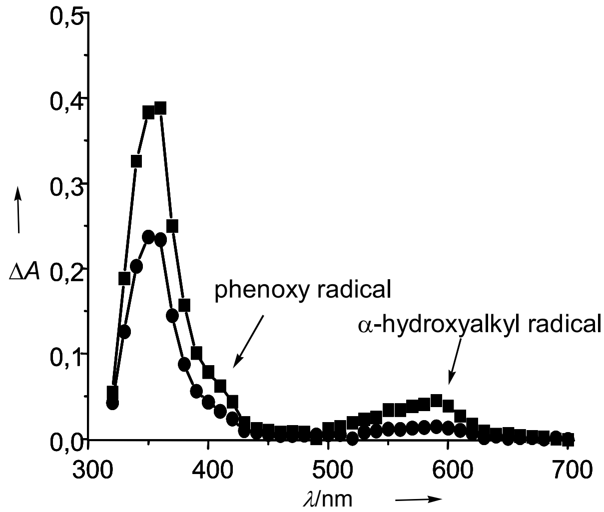

Figure S3: Transient absorption spectra of a deaerated acetonitrile solution of **(*R*)-1** (1.1 mM) in the presence of **(*R*)-2** (80 mM) obtained 0.2 and 10 μs after the laser pulse.

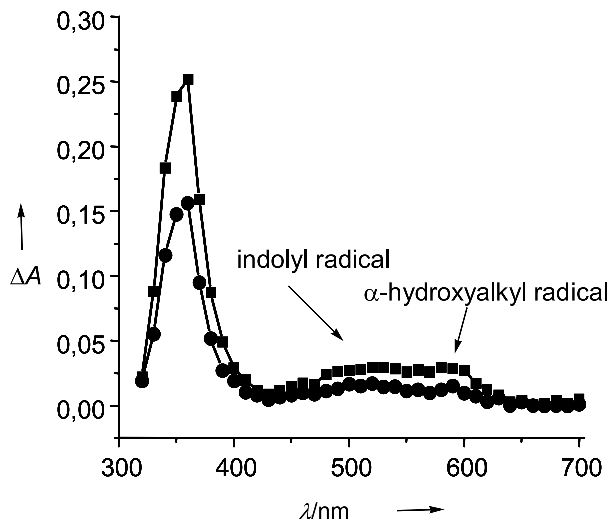

Figure S4: Transient absorption spectra of a deaerated acetonitrile solution of **(*R*)-1** (1.1 mM) in the presence of **(*R*)-3** (11 mM) obtained 0.2 and 10 μs after the laser pulse.

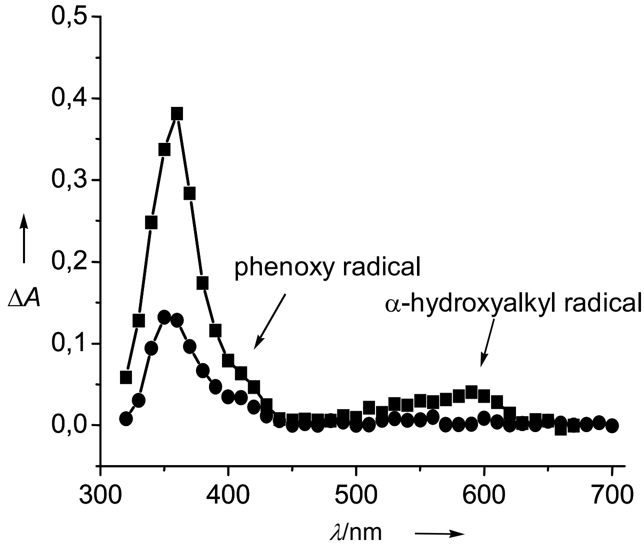

Figure S5: Transient absorption spectra of a deaerated dichloromethane solution of ***(R)*-1** (1.1 mM) in the presence of ***(R)*-2** (12 mM) obtained 0.2 and 10 μs after the laser pulse.

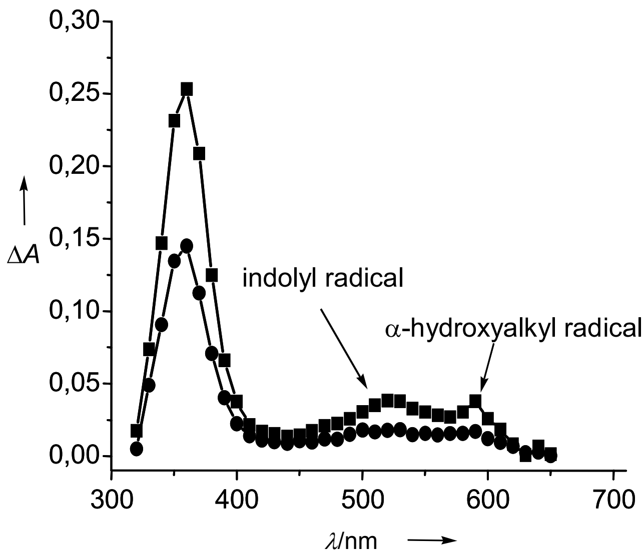

Figure S6: Transient absorption spectra of a deaerated dichloromethane solution of ***(R)*-1** (1.1 mM) in the presence of ***(R)*-3** (11 mM) obtained 0.2 and 10 μs after the laser pulse.

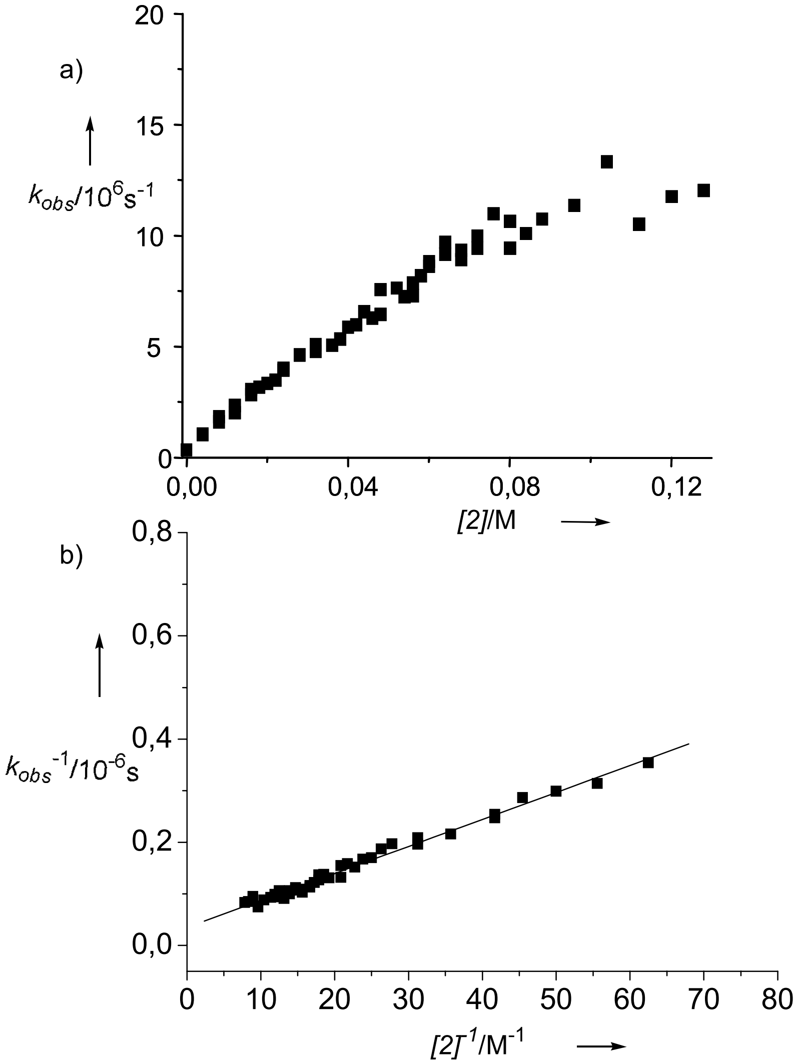

Figure S7: a) Saturation behavior of the observed rate constants for the quenching of **(*R*)-1** triplet excited state at 630 nm by **(*R*)-2** in acetonitrile. b) Double-reciprocal evaluation according to equation 5.

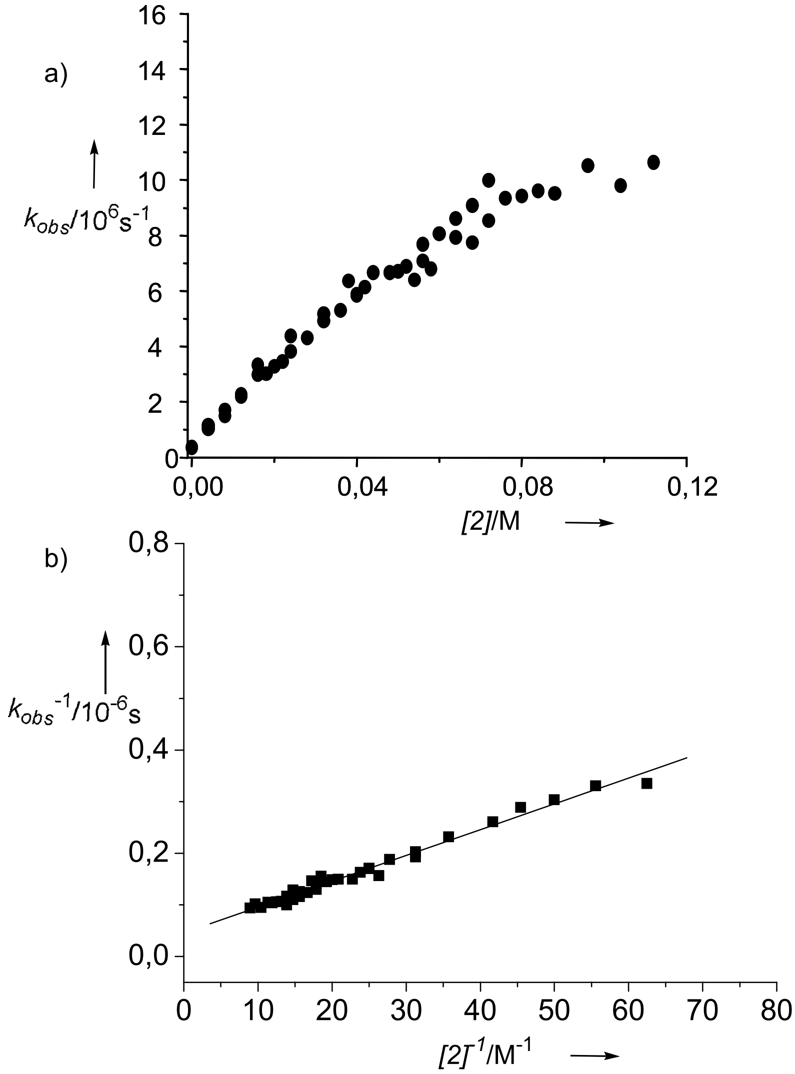

Figure S8: a) Saturation behavior of the observed rate constants for the quenching of **(*S*)-1** triplet excited state by **(*R*)-2** in acetonitrile. b) Double-reciprocal evaluation according to equation 5.

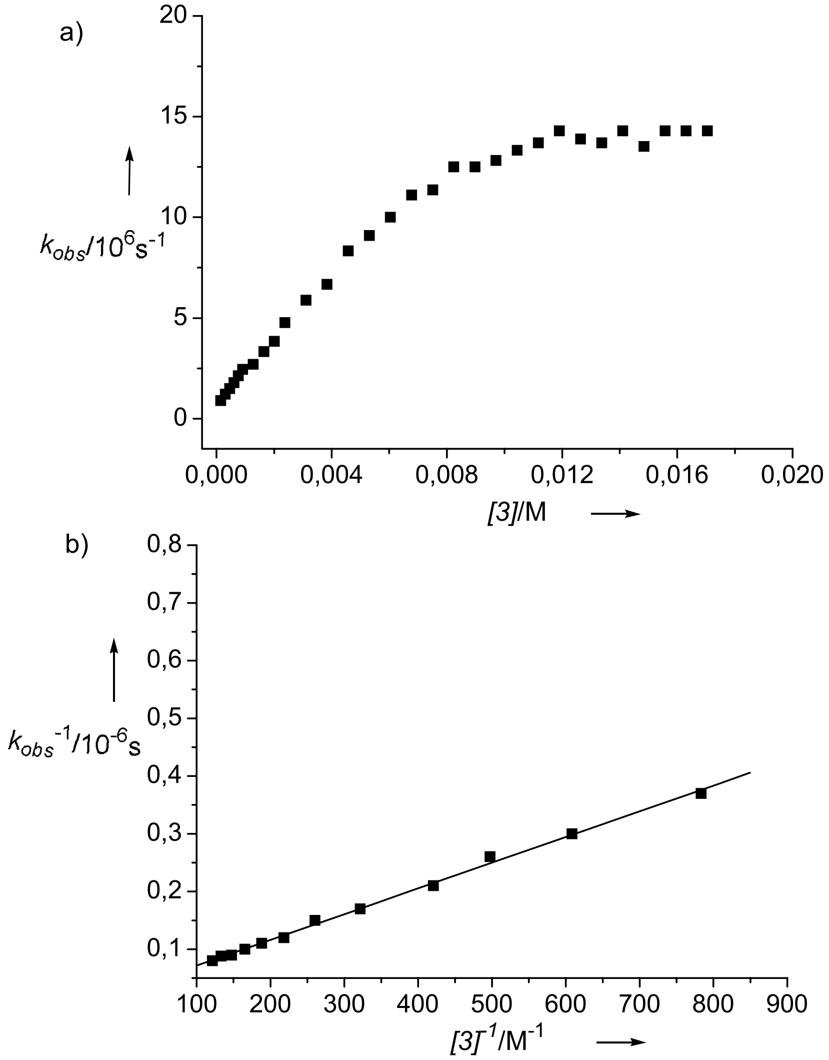

Figure S9: a) Saturation behavior of the observed rate constants for the quenching of **(*R*)-1** triplet excited state at 630 nm by **(*R*)-3** in acetonitrile. b) Double-reciprocal evaluation according to equation 5.

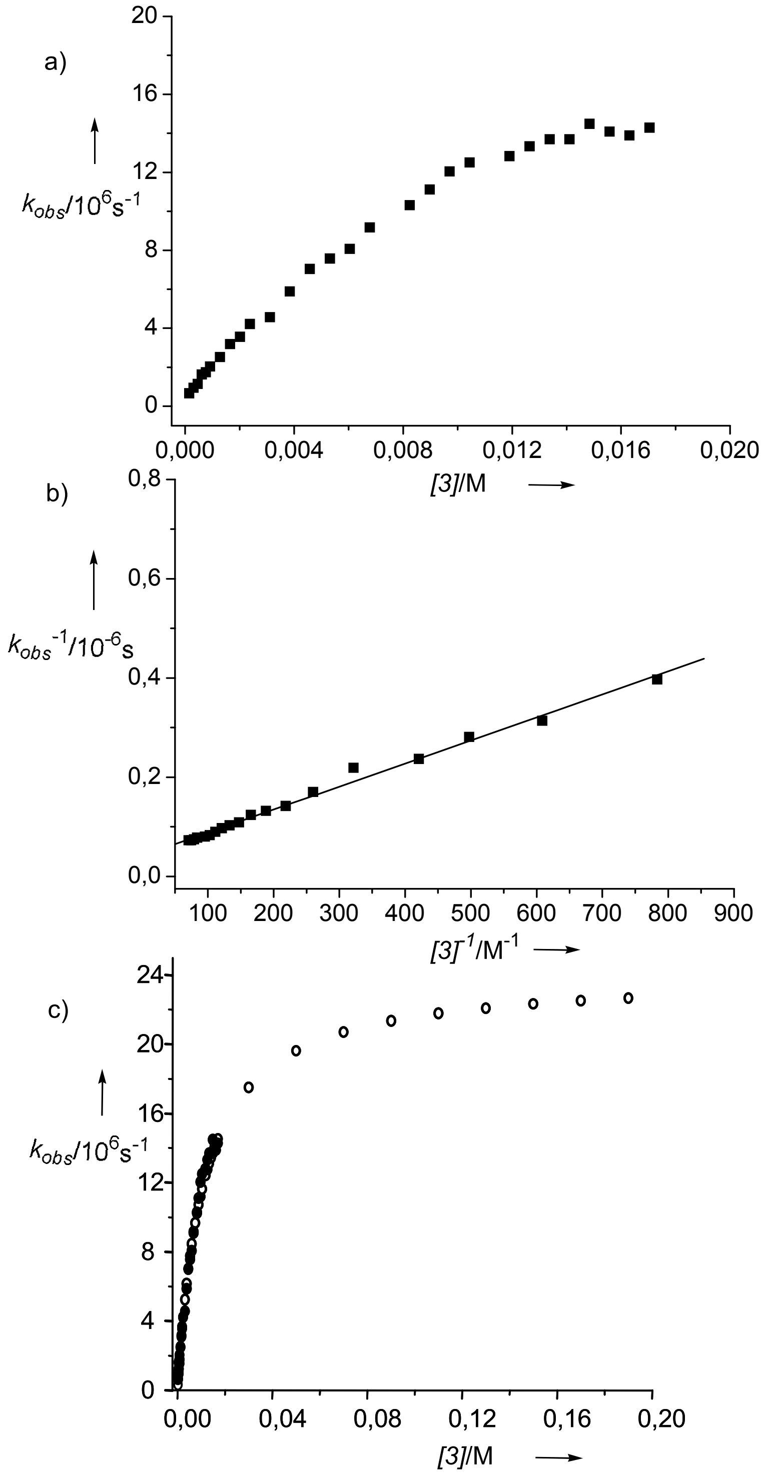

Figure S10: a) Saturation behavior of the observed rate constants for the quenching of **(*S*)-1** triplet excited state at 630 nm by **(*R*)-3** in acetonitrile. b) Double-reciprocal evaluation according to equation 5. c) Comparison between the experimental values (●) and the calculated line (○) for the non-linear quenching plot based on the K_{EC} and k_d values recovered from the double-reciprocal plot.

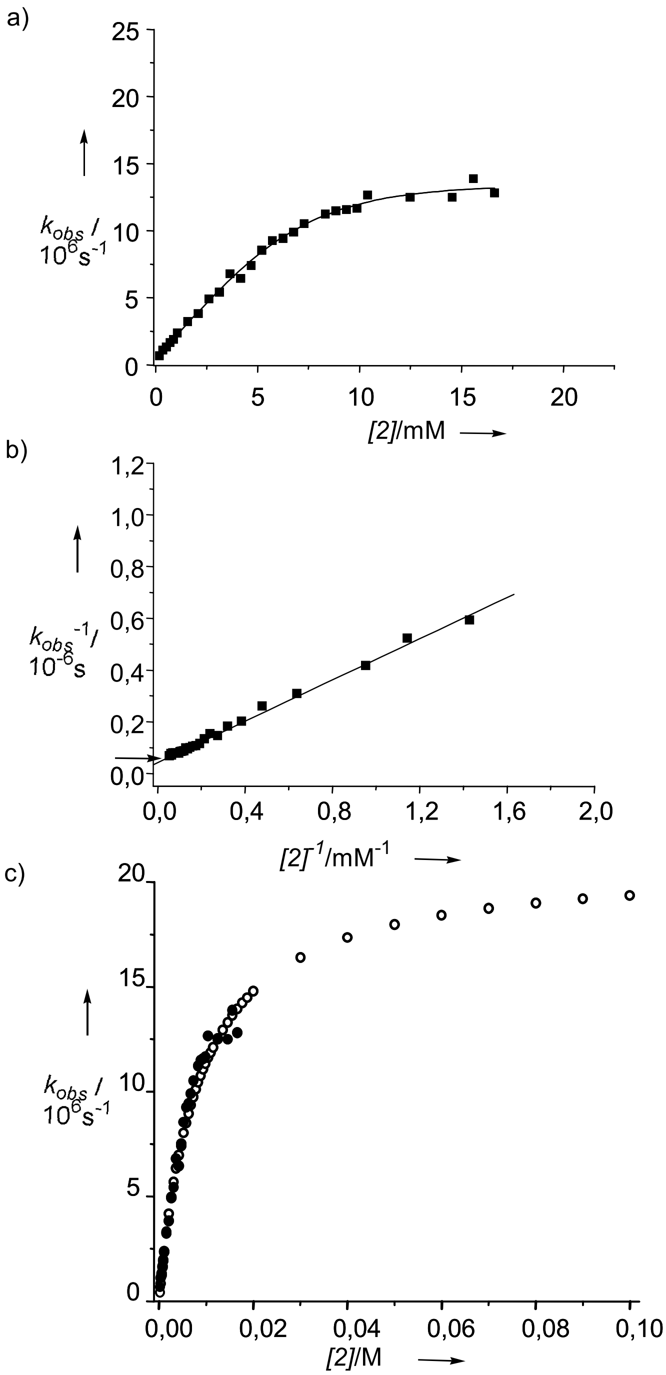

Figure S11: a) Saturation behavior of the observed rate constants for the quenching of **(*R*)-1** triplet excited state at 630 nm by **(*R*)-2** in dichloromethane. b) Double-reciprocal evaluation according to equation 5. c) Comparison between the experimental values (●) and the calculated line (○) for the non-linear quenching plot based on the K_{EC} and k_d values recovered from the double-reciprocal plot.

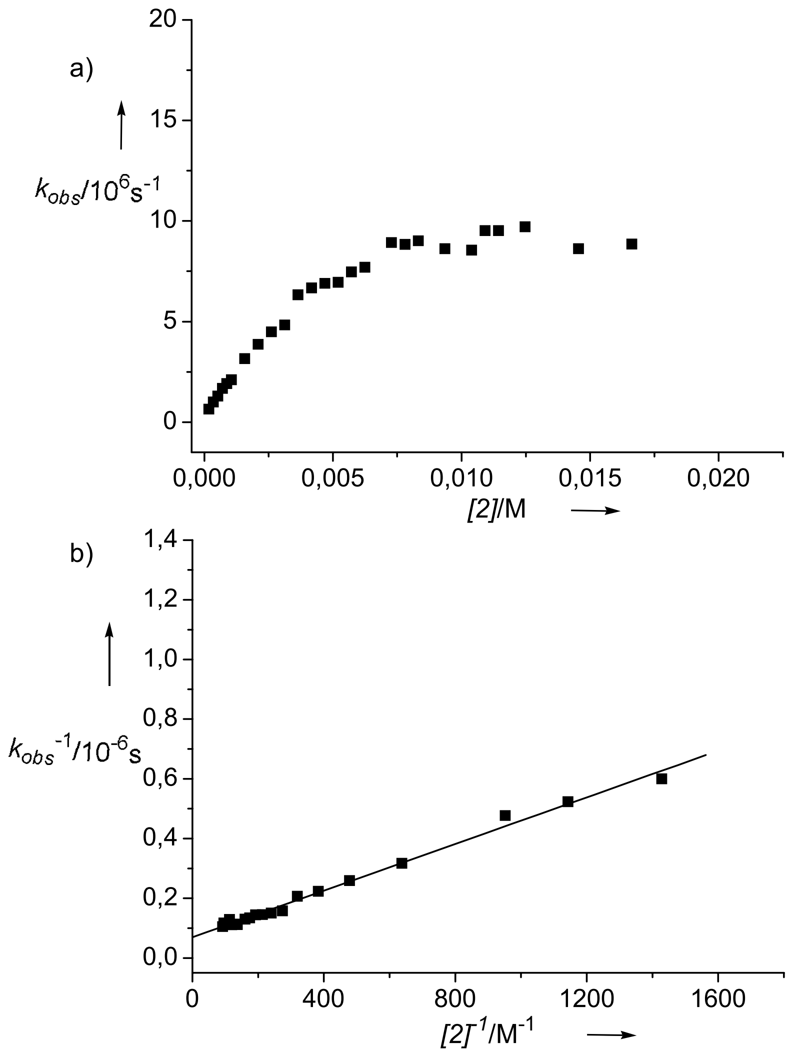

Figure S12: a) Saturation behavior of the observed rate constants for the quenching of **(*S*)-1** triplet excited state at 630 nm by **(*R*)-2** in dichloromethane. b) Double-reciprocal evaluation according to equation 5.

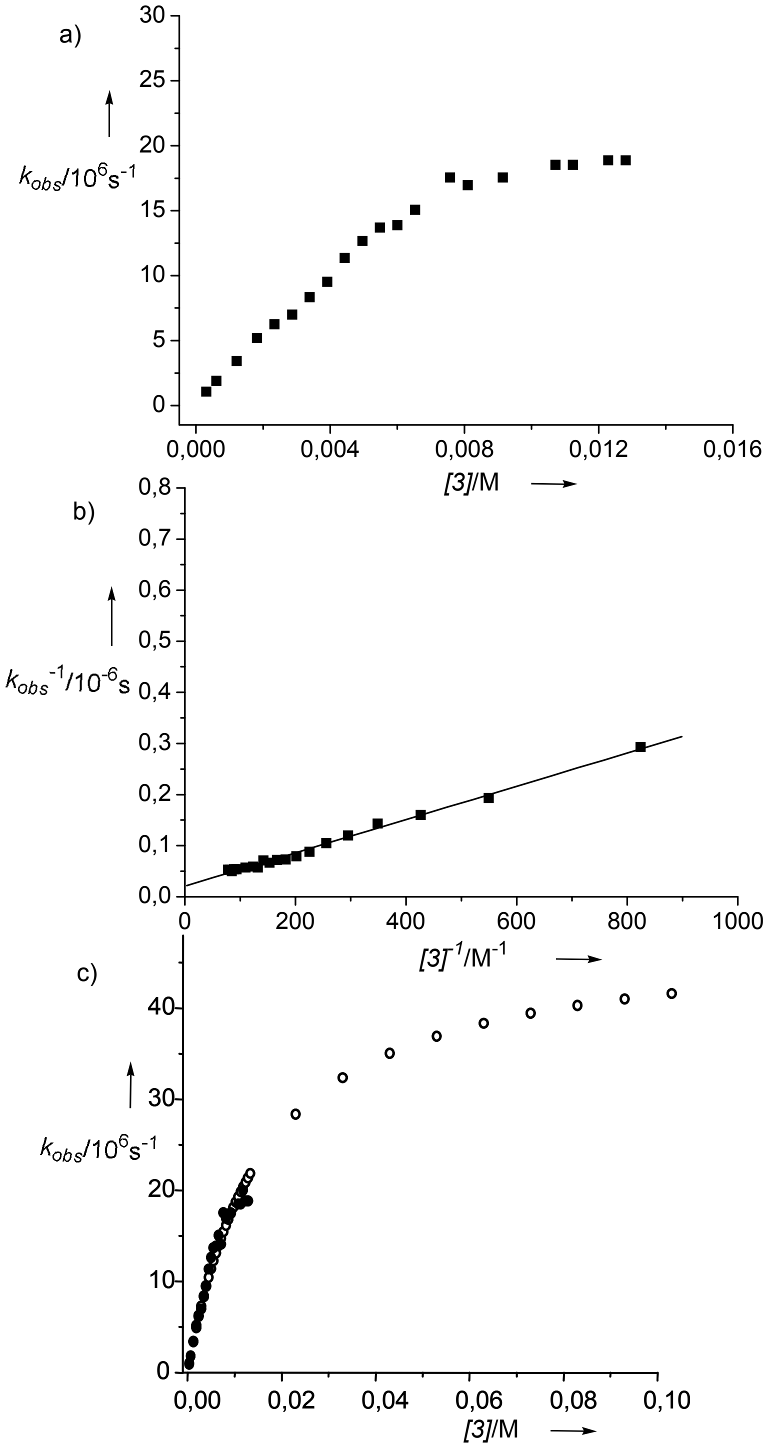

Figure S13: a) Saturation behavior of the observed rate constants for the quenching of **(*R*)-1** triplet excited state at 630 nm by **(*R*)-3** in dichloromethane. b) Double-reciprocal evaluation according to equation 5.
c) Comparison between the experimental values (●) and the calculated line (○) for the non-linear quenching plot based on the K_{EC} and k_d values recovered from the double-reciprocal plot.

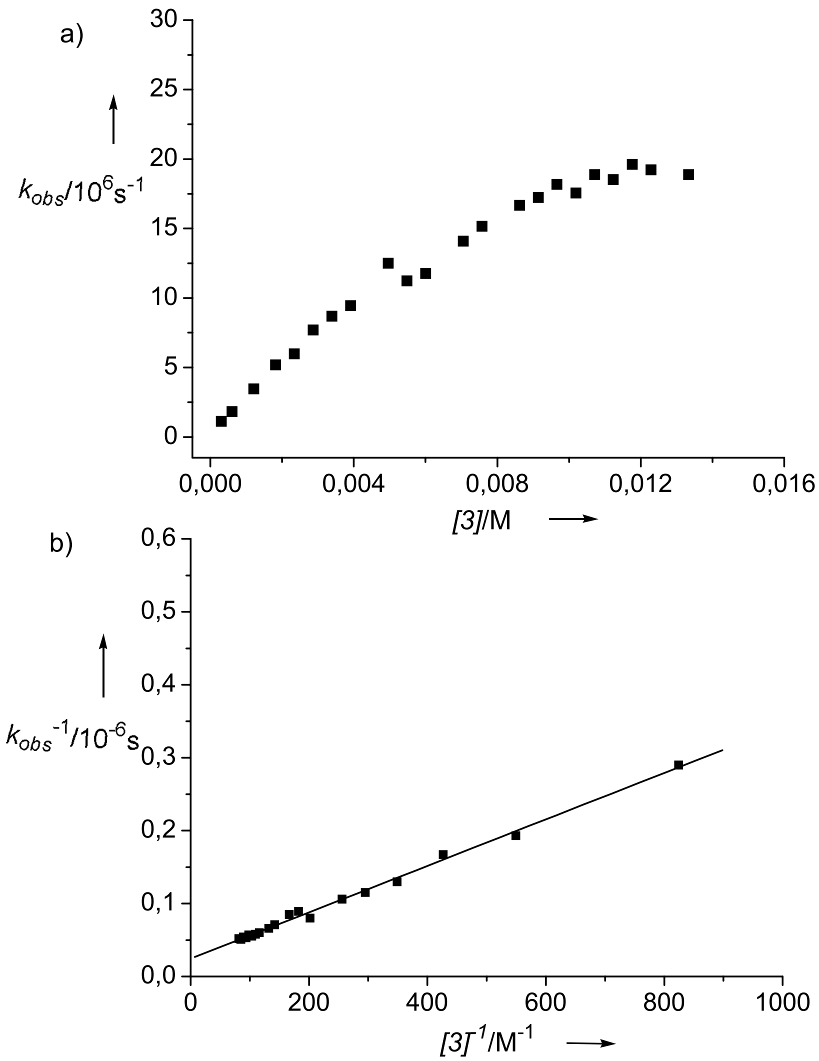

Figure S14: a) Saturation behavior of the observed rate constants for the quenching of **(*S*)-1** triplet excited state at 630 nm by **(*R*)-3** in dichloromethane. b) Double-reciprocal evaluation according to equation 5.