**SUPPORTING INFORMATION**

**KINETIC ANALYSIS OF HYDROLYTIC DECOMPOSITION OF RUBROCURCUMIN ANALOGUES**

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**Table S1** Hydrolysis rate data for CBO 1 in different solvent systems

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| % of solvent | 105 k1 (s-1) | | | | |
| Acetone | Acetonitrile | Acetic acid | Dioxane | Methanol |
| 10 | - | - | - | 73.34±0.01 | - |
| 20 | 12.23±0.04 | 27.38±0.02 | 32.76±0.03 | 21.42±0.01 | - |
| 30 | 6.32±0.03 | 10.71±0.02 | 27.05±0.02 | 6.93±0.02 | 62.29±0.03 |
| 40 | 3.32±0.03 | 3.42±0.01 | 17.27±0.02 | 2.83±0.01 | 40.76±0.01 |
| 50 | 1.76±0.01 | 1.04±0.01 | 12.39±0.01 | - | 28.42±0.04 |
| 60 | 1.05±0.01 | 0.43±0.00 | 8.64±0.01 | - | 16.51±0.04 |

**Table S2** Hydrolysis rate data for CBO 2 in different solvent systems

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| % of solvent | 105 k1 (s-1) | | | | |
| Acetone | Acetonitrile | Acetic acid | Dioxane | Methanol |
| 10 | - | 124.11±0.06 | - | 40.43±0.02 | - |
| 20 | 12.29±0.04 | 15.49±0.01 | 35.64±0.02 | 18.15±0.02 | 88.28±0.03 |
| 30 | 6.62±0.02 | 6.29±0.01 | 23.45±0.02 | 6.04±0.01 | 69.58±0.02 |
| 40 | 2.64±0.02 | 2.45±0.01 | 17.44±0.01 | 2.43±0.01 | 56.54±0.06 |
| 50 | 1.32±0.01 | 1.16±0.02 | 13.20±0.02 | 1.34±0.00 | 33.42±0.01 |
| 60 | 0.61±0.01 | - | 9.35±0.01 | - | 22.41±0.02 |

**Table S3** Hydrolysis rate data for CBO 3 in different solvent systems

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| % of solvent | 105 k1 (s-1) | | | | |
| Acetone | Acetonitrile | Acetic acid | Dioxane | Methanol |
| 10 | - | 87.41±0.02 | - | 48.43±0.01 | - |
| 20 | 11.95±0.03 | 11.12±0.02 | 36.31±0.05 | 15.54±0.02 | 87.51±0.04 |
| 30 | 6.33±0.02 | 5.43±0.00 | 23.33±0.01 | 5.64±0.02 | 59.53±0.06 |
| 40 | 2.34±0.02 | 2.17±0.01 | 14.44±0.02 | 2.05±0.01 | 42.62±0.03 |
| 50 | 0.94±0.01 | 0.88±0.01 | 12.14±0.02 | 0.84±0.01 | 28.36±0.02 |
| 60 | 0.43±0.01 | - | 9.55±0.01 | - | 17.28±0.01 |

**Table S4** Hydrolysis rate data for CBO 4 in different solvent systems

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| % of solvents | 105 k1 (s-1) | | | |
| Acetone | Acetonitrile | Acetic acid | Dioxane |
| 20 | 24.17±0.06 | - | - | - |
| 30 | 16.09±0.03 | 9.73±0.01 | 19.54±0.02 | 14.24±0.01 |
| 40 | 8.50±0.03 | 6.38±0.01 | 15.27±0.01 | 10.37±0.02 |
| 50 | 4.68±0.02 | 4.40±0.02 | 10.58±0.01 | 7.19±0.01 |
| 60 | 2.88±0.02 | 3.22±0.01 | 8.38±0.00 | 5.68±0.01 |

**Table S5** Statistical data for the hydrolysis of CBO analogues in acetone water system obtained from GW plot

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | CBO 1 | CBO 2 | CBO 3 | CBO 4 |
| Slope | 0.3815 | 0.4704 | 0.5296 | 0.3389 |
| Intercept | 4.6066 | 4.3030 | 4.0809 | 5.1044 |
| SD | 0.0402 | 0.0254 | 0.0278 | 0.0180 |
| *R2* | 0.9966 | 0.9991 | 0.9992 | 0.9991 |

**Table S6** Statistical data for the hydrolysis of CBO 1 obtained from GW plots

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Acetone | Acetonitrile | Acetic acid | Dioxane | Methanol |
| Slope | 0.3815 | 0.9919 | 0.4136 | 0.7345 | 0.4491 |
| Intercept | 4.6066 | 3.5616 | 5.3000 | 3.9332 | 5.5534 |
| SD | 0.0402 | 0.1051 | 0.0237 | 0.0545 | 0.0169 |
| *R2* | 0.9966 | 0.9923 | 0.9963 | 0.9974 | 0.9984 |

**Table S7** Statistical data for the hydrolysis of CBO 2 obtained from G W plots

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Acetone | Acetonitrile | Acetic acid | Dioxane | Methanol |
| Slope | 0.4704 | 0.8300 | 0.3880 | 0.5929 | 0.3931 |
| Intercept | 4.3030 | 3.7923 | 5.3664 | 4.2570 | 5.7686 |
| SD | 0.0254 | 0.0312 | 0.0292 | 0.0690 | 0.0293 |
| *R2* | 0.9991 | 0.9994 | 0.9936 | 0.9952 | 0.9945 |

**Table S8** Statistical data for the hydrolysis of CBO 3 obtained from GW plots

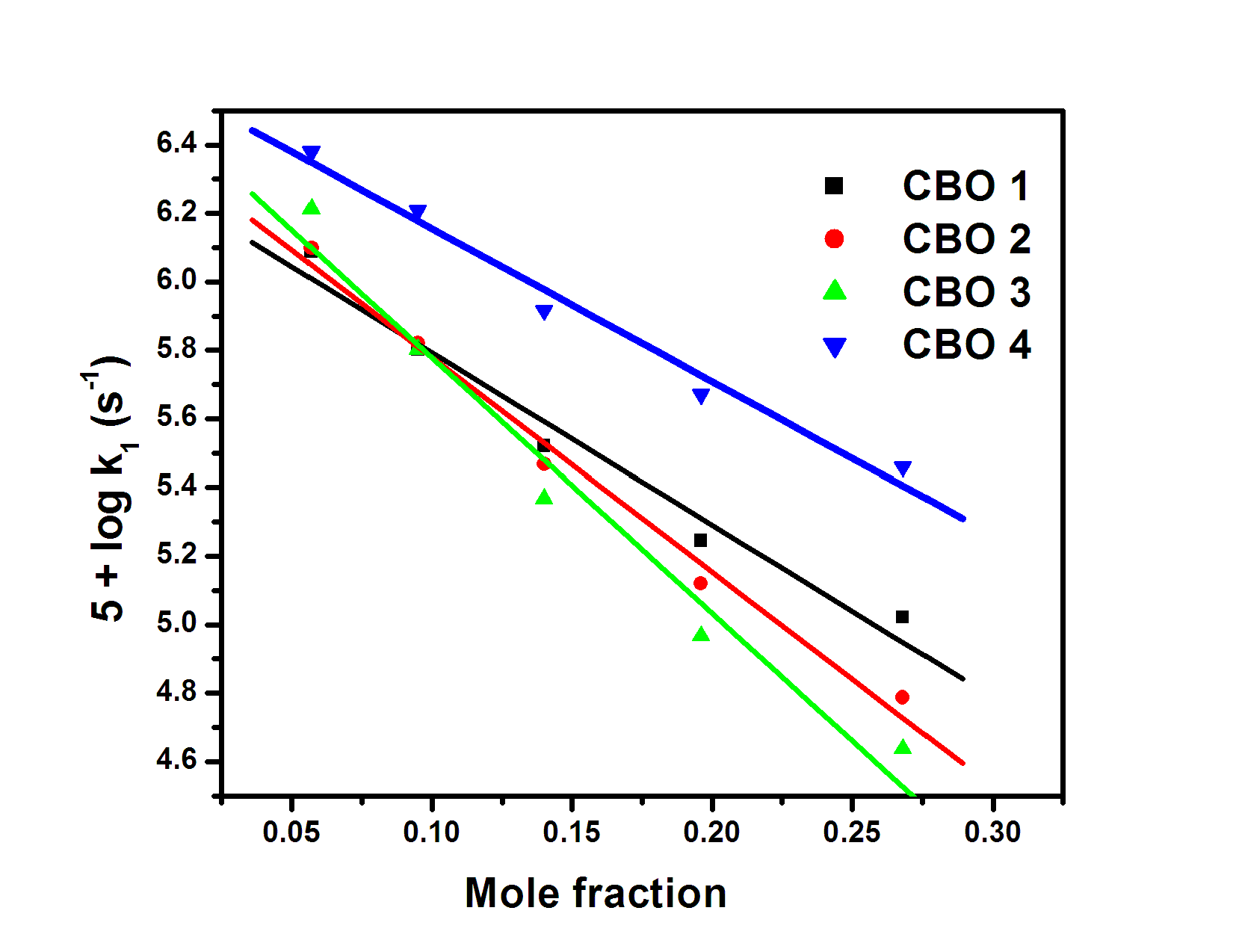
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Acetone | Acetonitrile | Acetic acid | Dioxane | Methanol |
| Slope | 0.5296 | 0.8039 | 0.3940 | 0.6812 | 0.4474 |
| Intercept | 4.0809 | 3.7549 | 5.3393 | 3.9641 | 5.5666 |
| SD | 0.0278 | 0.0204 | 0.0518 | 0.0353 | 0.0177 |
| *R2* | 0.9992 | 0.9997 | 0.9809 | 0.9990 | 0.9984 |

**Table S9** Statistical data for the hydrolysis of CBO 4 obtained from GW plots

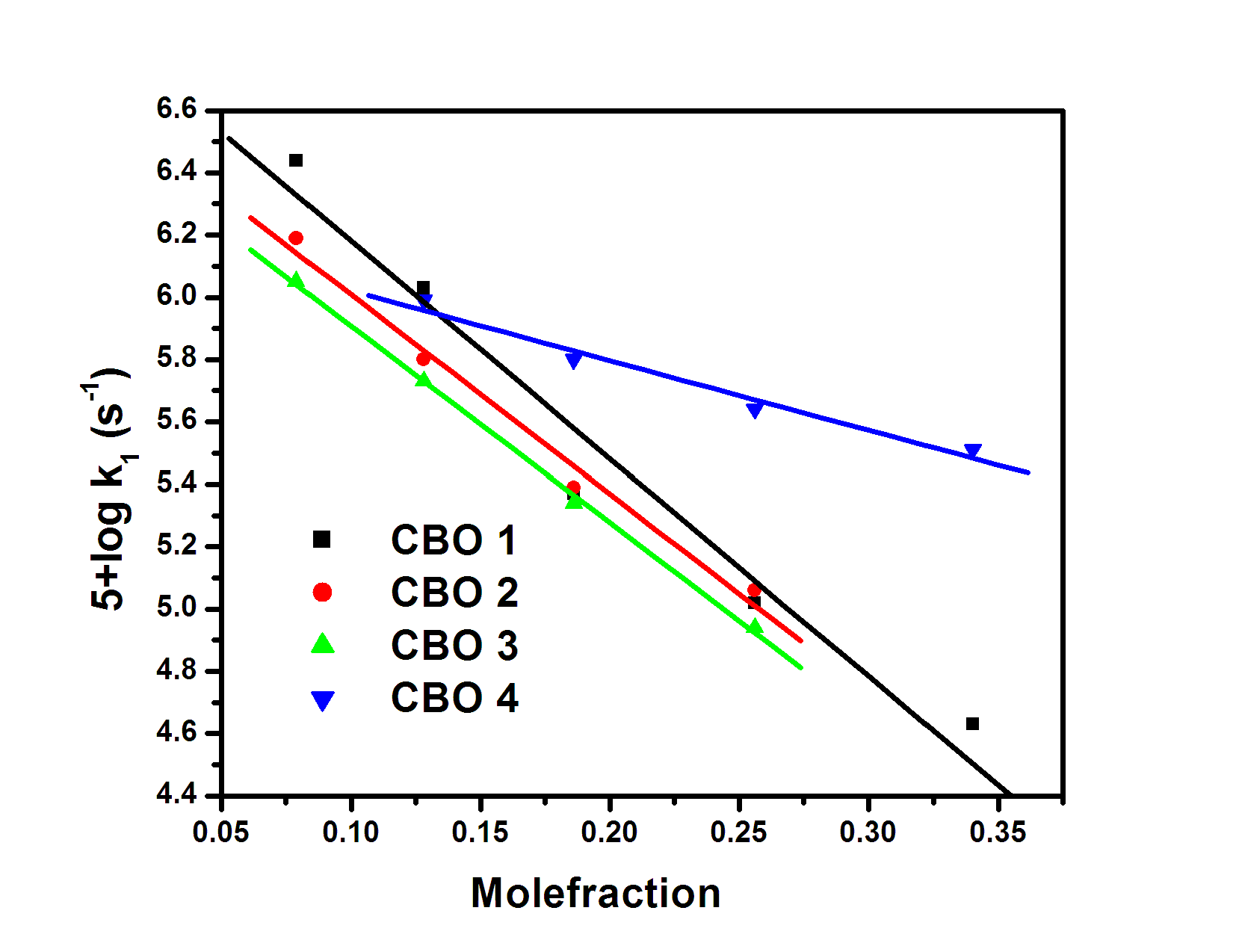
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Acetone | Acetonitrile | Acetic acid | Dioxane |
| Slope | 0.3389 | 0.3365 | 0.3320 | 0.2087 |
| Intercept | 5.1044 | 5.1555 | 5.4059 | 5.5924 |
| SD | 0.0180 | 0.0213 | 0.0221 | 0.0167 |
| *R2* | 0.9991 | 0.9965 | 0.9939 | 0.9970 |

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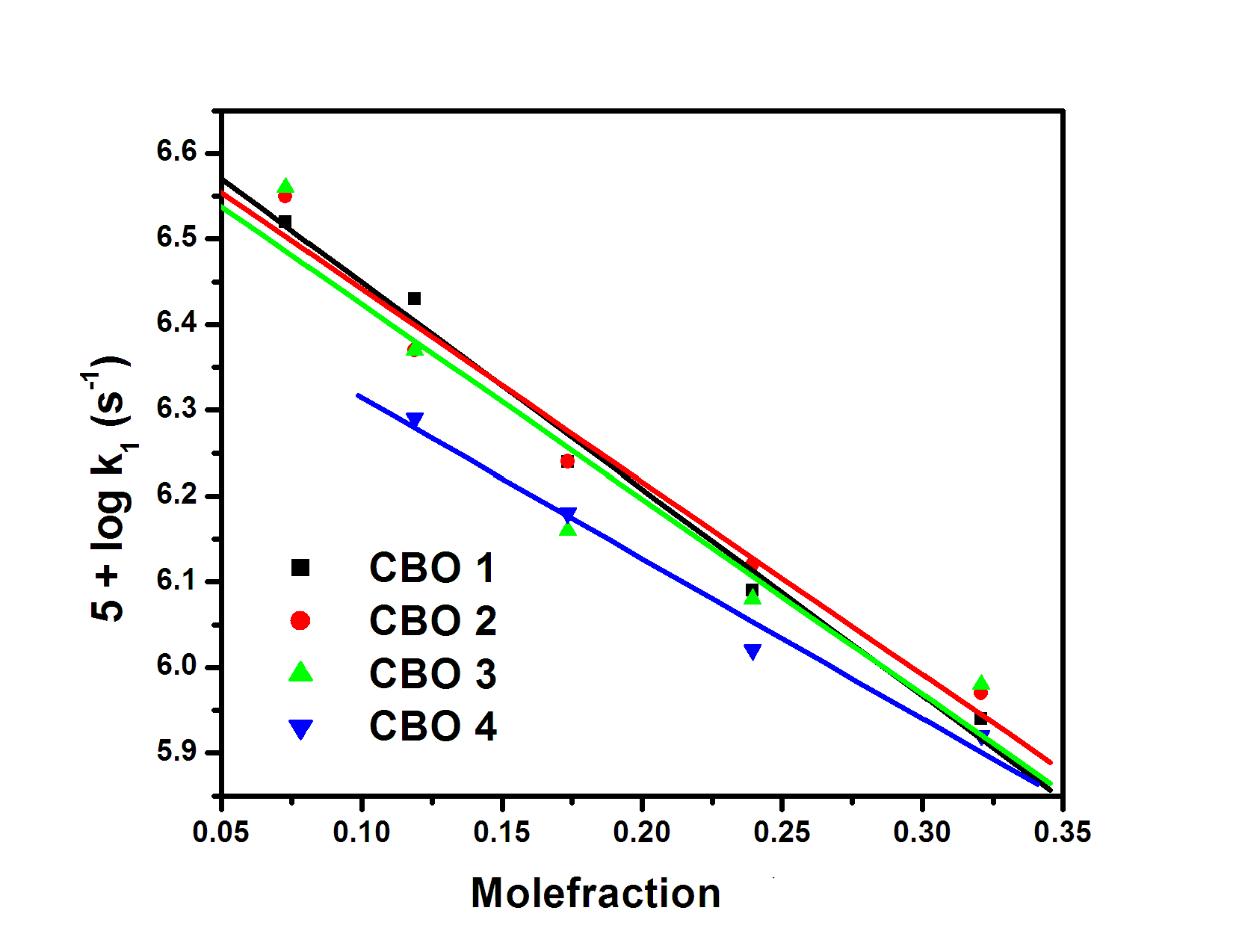
**Figure S1.** The UV-Visible spectrum of CBO 1 in 50 % acetone water medium at 50 °C taken at definite time interval during hydrolysis



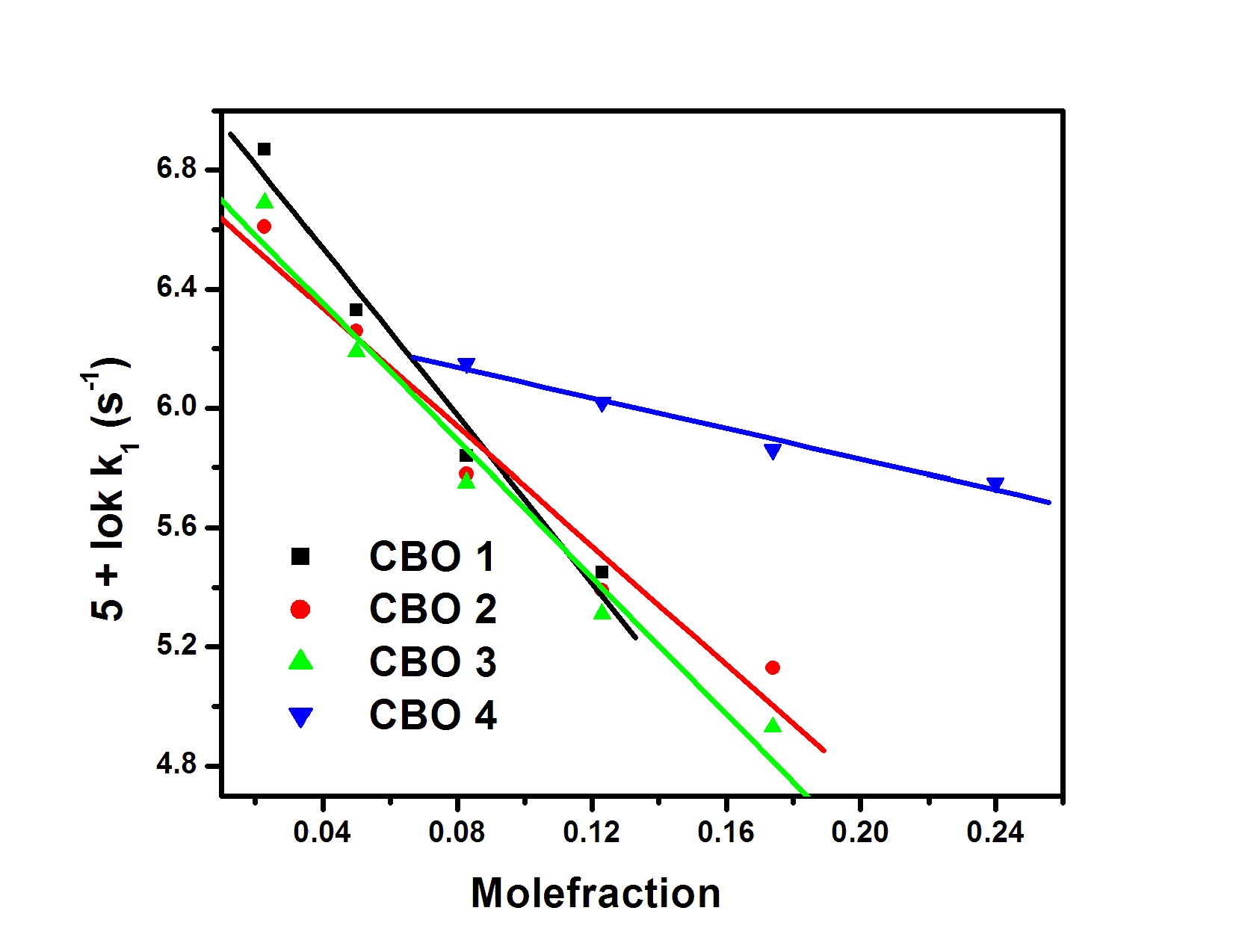
**Fig. S2** log k1 vs. mole fraction plots for the hydrolysis of CBO analogues in aqueous acetone medium



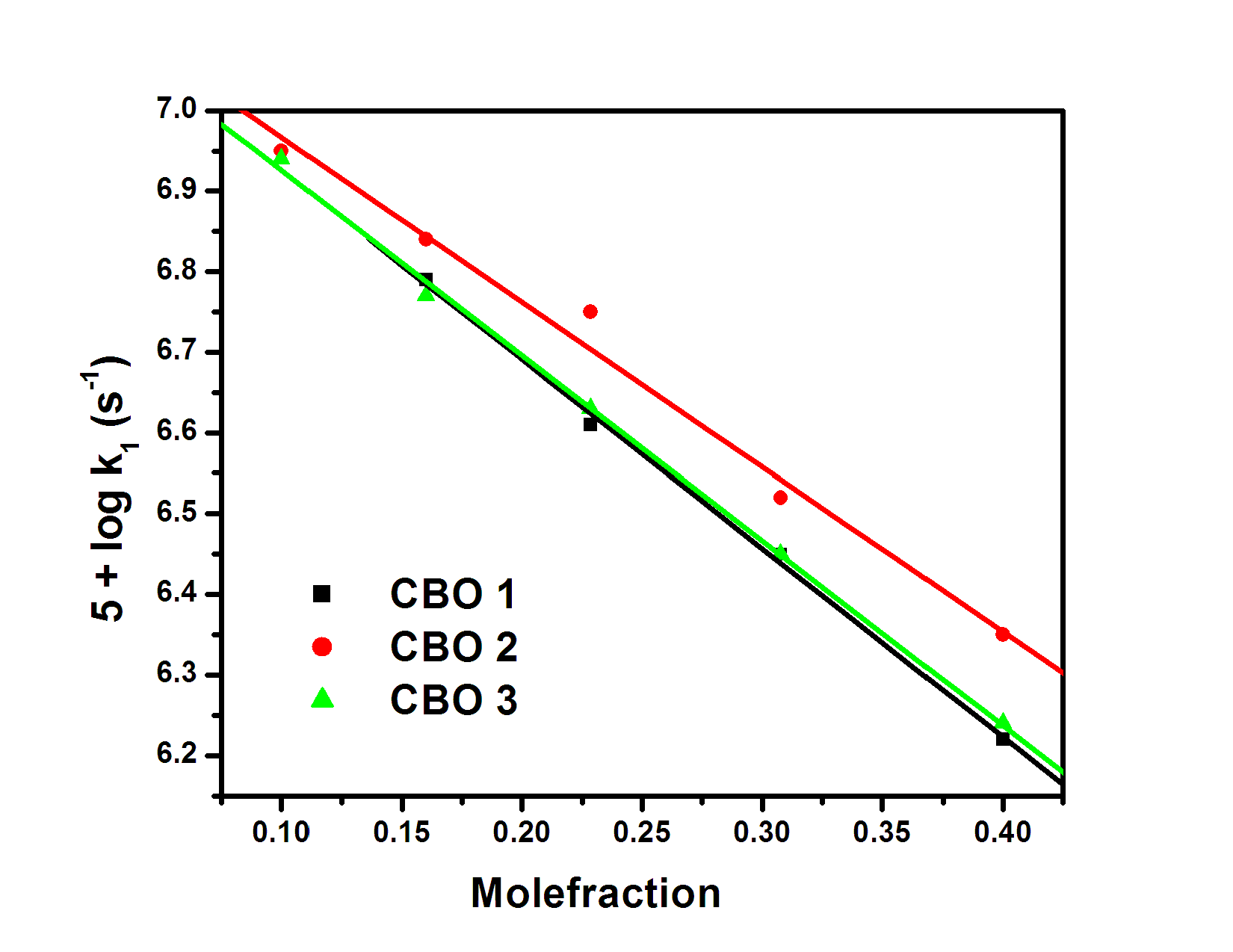
**Fig. S3** log k1 vs. mole fraction plots for the hydrolysis of CBO analogues in aqueous acetonitrile medium



**Fig. S4** log k1 vs. mole fraction plots for the hydrolysis of CBO analogues in aqueous acetic acid medium



**Fig. S5** log k1 vs. mole fraction plots for the hydrolysis of CBO analogues in aqueous dioxane medium



**Fig. S6** log k1 vs. mole fraction plots for the hydrolysis of CBO analogues in aqueous methanol medium