

**Tabel S1.** Absorbance data for different tested water flow rates and disc rotational speeds, using Al<sub>2</sub>O<sub>3</sub>, within a SD experimental setup

<i>Water flow rate (L/h), Disc rotational speed (rpm)</i>													
<i>2 g/L Al<sub>2</sub>O<sub>3</sub>, 5.76 L/h, 100 rpm</i>													
<i>Time, t(min)</i>	0	5	10	15	20	25	30	35	40	45	50	55	60
<i>Absorbance, A<sub>456</sub></i>	0.562	0.599	0.659	0.612	0.585	0.573	0.582	0.585	0.565	0.561	0.662	0.557	0.549
<i>2 g/L Al<sub>2</sub>O<sub>3</sub>, 5.76 L/h, 250 rpm</i>													
<i>t (min)</i>	0	5	10	15	20								
<i>A<sub>456</sub></i>	0.557	0.561	0.561	0.556	0.564								
<i>2 g/L Al<sub>2</sub>O<sub>3</sub>, 7.44 L/h, 500 rpm</i>													
<i>t (min)</i>	0	5	10	15									
<i>A<sub>456</sub></i>	0.562	0.557	0.572	0.586									
<i>2 g/L Al<sub>2</sub>O<sub>3</sub>, 7.44 L/h, 800 rpm</i>													
<i>t (min)</i>	0	5	10	15	20	25	30	35					
<i>A<sub>456</sub></i>	0.586	0.561	0.552	0.540	0.544	0.534	0.544	0.545					
<i>2 g/L Al<sub>2</sub>O<sub>3</sub>, 8.16 L/h, 100 rpm</i>													
<i>t (min)</i>	0	5	10	15	20	25							
<i>A<sub>456</sub></i>	0.545	0.552	0.536	0.517	0.528	0.518							
<i>4 g/L Al<sub>2</sub>O<sub>3</sub>, 5.76 L/h, 100 rpm</i>													
<i>t (min)</i>	0	5	10	15									
<i>A<sub>456</sub></i>	0.217	0.204	0.227	0.323									
<i>4 g/L Al<sub>2</sub>O<sub>3</sub>, 5.76 L/h, 250 rpm</i>													
<i>t (min)</i>	0	5	10	15									
<i>A<sub>456</sub></i>	0.209	0.229	0.217	0.290									
<i>4 g/L Al<sub>2</sub>O<sub>3</sub>, 5.76 L/h, 500 rpm</i>													
<i>t (min)</i>	0	5	10	15	20	25							
<i>A<sub>456</sub></i>	0.223	0.223	0.217	0.214	0.223	0.209							
<i>4 g/L Al<sub>2</sub>O<sub>3</sub>, 5.76 L/h, 800 rpm</i>													
<i>t (min)</i>	0	5	10	15	20	25	30						
<i>A<sub>456</sub></i>	0.250	0.245	0.239	0.248	0.250	0.246	0.223						
<i>4 g/L Al<sub>2</sub>O<sub>3</sub>, 7.44 L/h, 100 rpm</i>													
<i>t (min)</i>	0	5	10	15	20	25	30						
<i>A<sub>456</sub></i>	0.321	0.321	0.306	0.298	0.297	0.295	0.298						
<i>4g/L Al<sub>2</sub>O<sub>3</sub>, 7.44 L/h, 250 rpm</i>													
<i>t (min)</i>	0	7	17	20	25	30	33						
<i>A<sub>456</sub></i>	0.298	0.296	0.286	0.279	0.290	0.294	0.281						
<i>4 g/L Al<sub>2</sub>O<sub>3</sub>, 7.44 L/h, 500 rpm</i>													
<i>t (min)</i>	0	5	10	15	20	25							
<i>A<sub>456</sub></i>	0.275	0.287	0.274	0.285	0.259	0.263							
<i>4 g/L Al<sub>2</sub>O<sub>3</sub>, 7.44 L/h, 800 rpm</i>													
<i>t (min)</i>	0	5	10	15									
<i>A<sub>456</sub></i>	0.263	0.258	0.250	0.251									
<i>4 g/L Al<sub>2</sub>O<sub>3</sub>, 8.16 L/h, 100 rpm</i>													
<i>t (min)</i>	0	5	10	15	20	25	30						

$A_{456}$	0.374	0.384	0.384	0.399	0.373	0.373	0.354						
<i>4 g/L Al<sub>2</sub>O<sub>3</sub>, 8.16 L/h, 800 rpm</i>													
<i>t (min)</i>	0	5	10	15	20	25							
$A_{456}$	0.464	0.439	0.461	0.430	0.443	0.444							