

Effect of Hydrothermal Carbonization on Dewatering Performance of Dyeing Sludge

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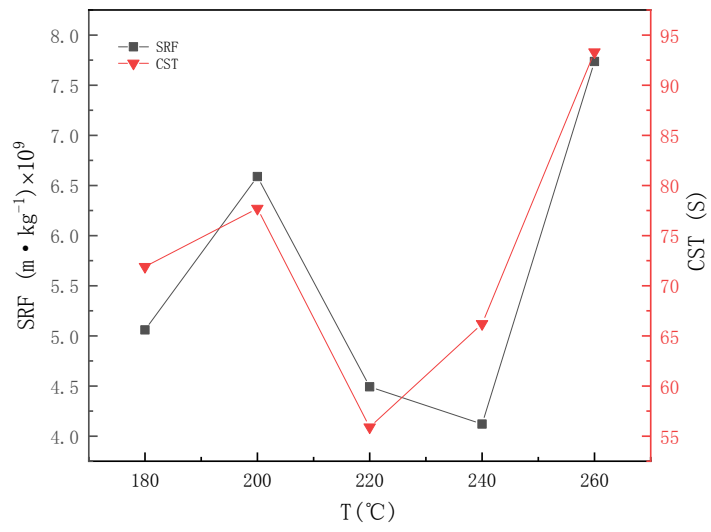
Supplement Information

Table.SI 1 Experimental process parameters

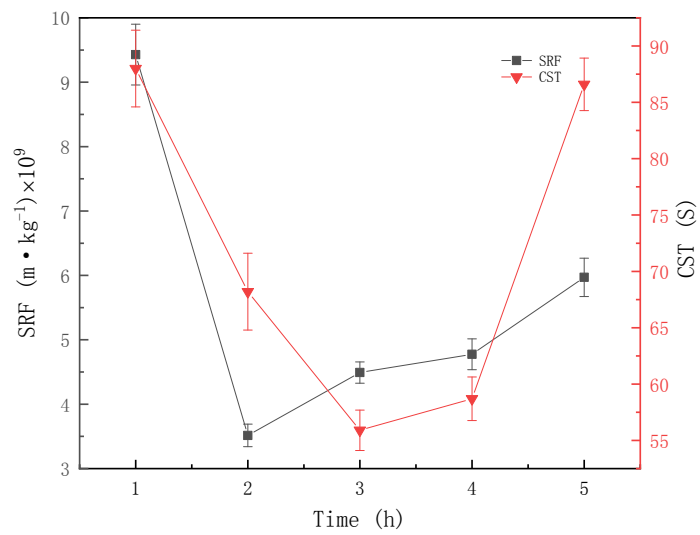
| Serial number | Temperature (°C) | Reaction residence time (h) | pH |
|---------------|------------------|-----------------------------|-----|
| 1 | 180 | 3 | 7.0 |
| 2 | 200 | 3 | 7.0 |
| 3 | 220 | 3 | 7.0 |
| 4 | 240 | 3 | 7.0 |
| 5 | 180 | 1 | 7.0 |
| 6 | 180 | 2 | 7.0 |
| 7 | 180 | 3 | 7.0 |
| 8 | 180 | 4 | 7.0 |
| 9 | 180 | 5 | 7.0 |
| 10 | 180 | 6 | 7.0 |
| 11 | 180 | 4 | 5.0 |
| 12 | 180 | 4 | 7.0 |
| 13 | 180 | 4 | 9.0 |

Table.SI 2 Changes in TOC and DOC before and after sludge treatment

| | | TOC (mg/L) | | DOC (mg/L) | | |
|-------|--------|------------|-------|------------|-------|------|
| | | before | after | before | after | |
| pH7.0 | 180°C | 265 | 6992 | 216 | 5079 | |
| | 200°C | 258 | 6260 | 207 | 4925 | |
| | 3h | 220°C | 268 | 2842 | 240 | 1942 |
| | 240°C | 274 | 2371 | 240 | 1914 | |
| pH7 | 1h | 255 | 14389 | 228 | 10559 | |
| | 2h | 267 | 11816 | 240 | 8126 | |
| | 3h | 263 | 6982 | 230 | 4730 | |
| | 180°C | 4h | 272 | 8986 | 234 | 6072 |
| | 5h | 254 | 9518 | 227 | 6802 | |
| | 6h | 271 | 10352 | 231 | 6966 | |
| 180°C | pH=5.0 | 1062 | 13822 | 960 | 10333 | |
| | 4h | pH=7.0 | 266 | 8780 | 242 | 6623 |
| | pH=9.0 | 796 | 10123 | 665 | 8099 | |



(a)



(b)

Fig. SI 1 Changes in CST and SRF before and after sludge treatment at different temperature conditions (a); Changes in CST and SRF before and after sludge treatment at different time conditions (b)