SUPPORTING INFORMATION

**Figure S1.** CS$_2$ concentrations under different buffer times.

**Figure S2.** Values of η for the limonite/BiVO$_4$ catalysts at different limonite/BiVO$_4$ mass ratios with different calcination temperatures: (a) 250°C; (b) 450°C; (c) 550°C.

**Figure S3.** Values of η for the siderite/BiVO$_4$ catalysts at different siderite/BiVO$_4$ mass ratios with different calcination temperatures: (a) 250°C; (b) 450°C; (c) 550°C.

**Figure S4.** Comparison of the values of η obtained for the catalysts with different iron ore supports.

![Graph showing CS$_2$ concentration over time](image)
Figure S2.

(a) 250°C
(b) 450°C
(c) 550°C
Figure S3.
Figure S4.