

## Supplementary material

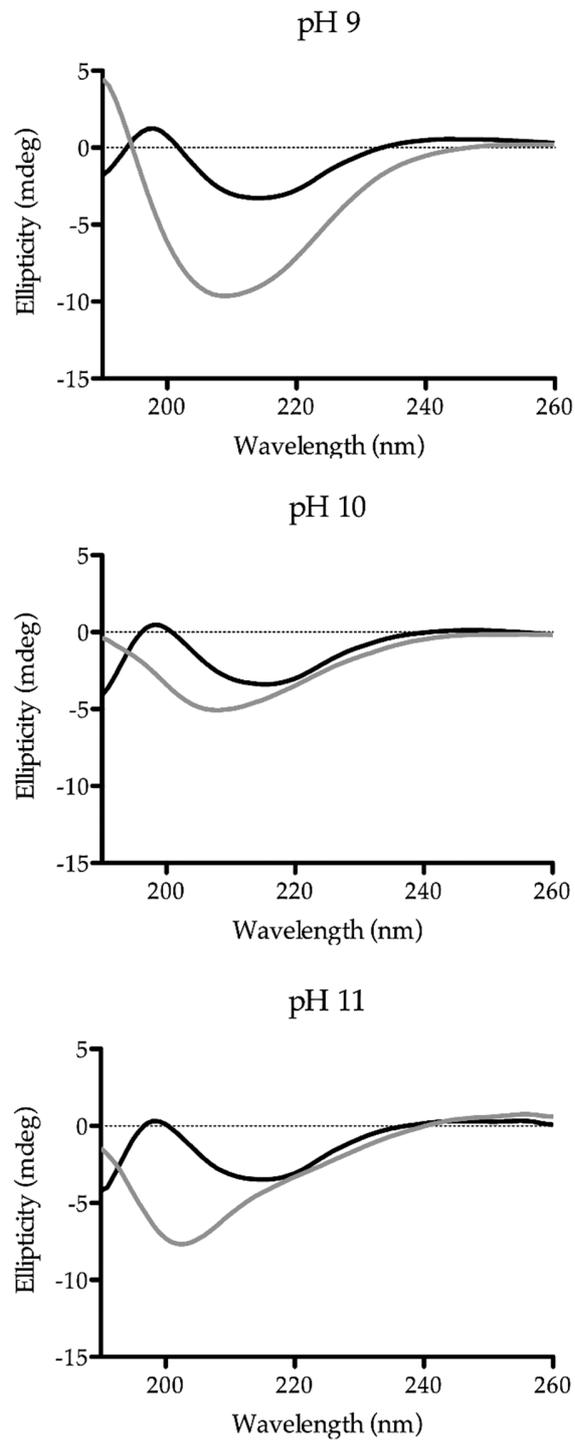
# Biocatalytic CO<sub>2</sub> absorption and structural studies of carbonic anhydrase under industrially-relevant conditions

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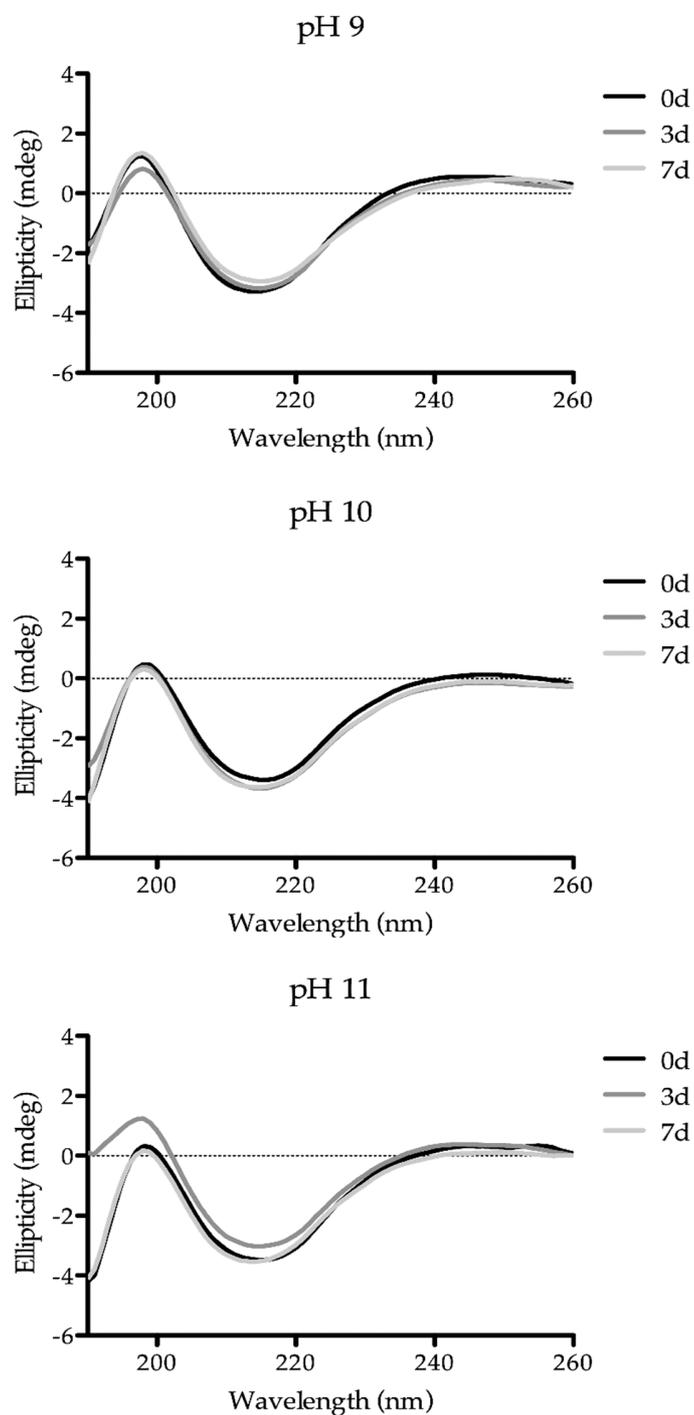
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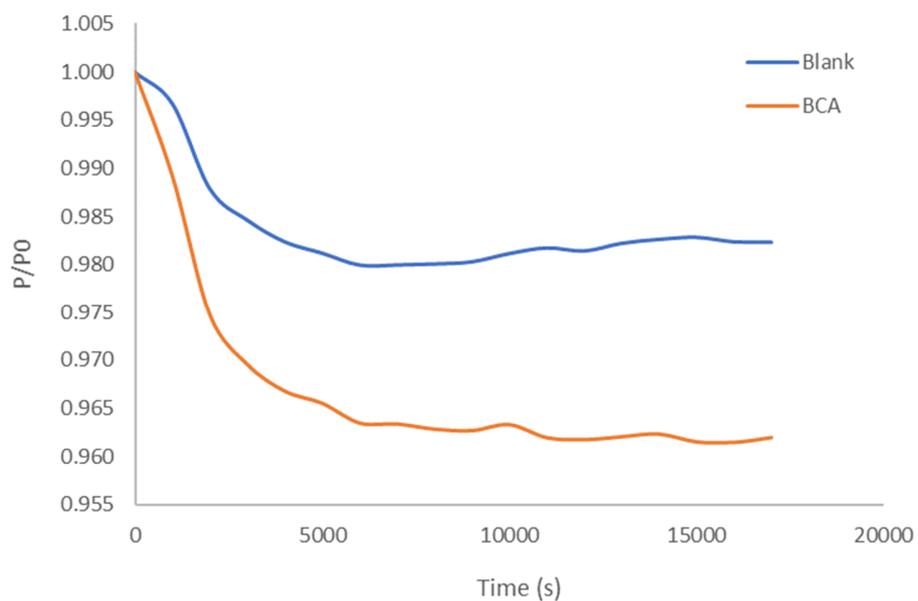
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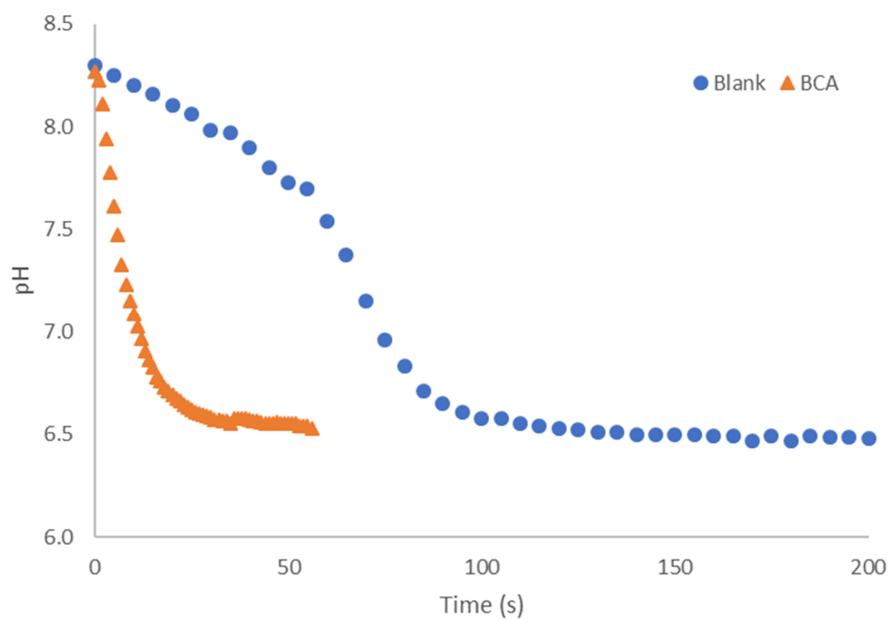
**Figure S1:** CD spectra of BCA at 20°C before (black) and after (grey) a temperature ramp (20-94 °C) under different pH conditions in mineral water.



**Figure S2:** CD spectra of BCA during incubation at 30 °C under different pH conditions in mineral water.



**Figure S3:** Time courses of pressure decay (normalized to the initial pressure –  $P_0$ ) as a function of time, during  $\text{CO}_2$  sorption tests under pH 10. Raw data are plotted after using a smoothing tool, to minimize noise.



**Figure S4:** Time courses of pH decrease during determination of the enzymatic activity of BCA, according to Wilbur-Anderson method [1].

## Reference

1. Wilbur, K.M.; Anderson, N.G. Electrometric and colorimetric determination of carbonic anhydrase. *J. Biol. Chem*, **1948**, *176*, 147-154.