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Influence of temperature and solvent concentration on the kinetics of the enzyme carbonic anhydrase in carbon capture technology

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Highlights:

- Effect of enyzme addition on CO_2 absorption studied for various solvents.
- Temperature and solvent concentration dependency on k_{enz} and k_{liq} determined.
- Temperature dependency (298-328 K) for AMP, MDEA and K_2CO_3.
- Concentration effect for K_2CO_3 (5-20 wt%), MDEA (15-50 wt%) and AMP (15-30 wt%).
- Mass transfer for K_2CO_3 comparable to MDEA, but Enzyme kinetics higher.

Keywords:

Wetted wall column; carbonic anhydrase; carbon capture; mass transfer; kinetics; solvent;