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## **Catalyst performance and experimental validation of a rigorous desorber model for low temperature catalyst-aided desorption of CO<sub>2</sub> in single and blended amine solutions**

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### **Highlights**

- Results show the catalyst-aided desorption of CO<sub>2</sub> in a CO<sub>2</sub> capture pilot plant.
- A model developed predicts CO<sub>2</sub> production rates with Absolute Average Deviation (AAD) of 7.7 %.
- The new model also predicts the temperature profiles in the desorption column.
- HZSM-5 performs better than  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> in both single and blended amine solutions
- The model was used to show a high CO<sub>2</sub> concentration profile in the modified desorber

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