



Showcasing research from Professor Haisong Wang's laboratory, Department of Light Industry and Chemical Engineering, Dalian Polytechnic University, Dalian, China.

Atomic scale niobium implantation in dealuminated industrial H- β zeolite catalyst for enhanced furfural production

To develop an industrial zeolite-based catalyst for efficient furfural production, the acidity, pore structure, and electronic properties of H- β zeolite were modulated by synergistic dealumination and atomic implantation treatments. The optimum catalyst can efficiently convert both xylan and xylose with a conversion of 100 % at a medium temperature of 130 °C within 3 hours. Addressing these issues is essential for improving the efficiency and practical application of industrial zeolite catalysts by this general approach and benefiting industrial furfural production.

As featured in:



See Yehan Tao, Haisong Wang *et al.*,
J. Mater. Chem. A, 2024, **12**, 24114.