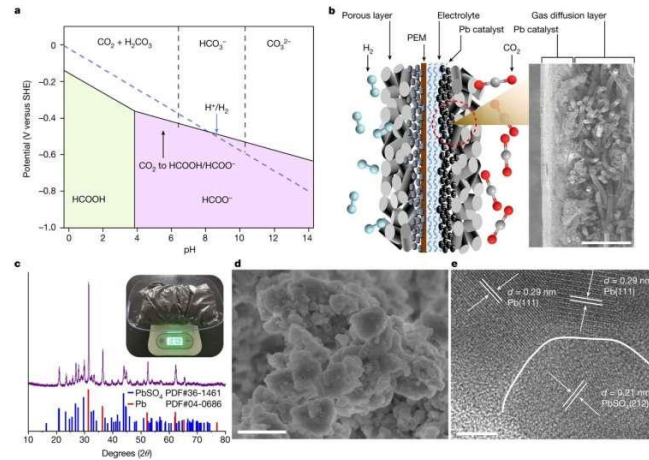


9-2-2024

## Carbon dioxide can be potential Precursor for Chemicals and Carbon-free fuel



Researchers have converted waste carbon dioxide into a potential precursor for chemicals and carbon-free fuel. They have demonstrated a method for turning CO<sub>2</sub> into formic acid, which has potential as a transportation fuel, to store electrical energy, and to enable the petrochemical industry to cut CO<sub>2</sub> emissions. As emissions of carbon dioxide, the primary greenhouse gas, rise each year, scientists are looking into options for the capture and storage of CO<sub>2</sub>, for repurposing CO<sub>2</sub>, and for pursuing a carbon-free economy. This innovation opens up exciting possibilities for carbon-neutral technologies. In the future, cars and gas stations could use repurposed carbon dioxide. In tests, the new method efficiently converted CO<sub>2</sub> for more than 5,000 hours, and calculations suggest it can be cost-effectively scaled up for industry. The experiments used a proton exchange membrane electrolyser. Carbon dioxide flowed into an electrochemical cell and was converted into formic acid, just like charging a battery. (Source: Wensheng Fang et al, Nature 2024).