

## **Enhanced Structural Stability and Selective Furfural Hydrogenation over Ru and Si co-doped SrFeO<sub>3-δ</sub> Perovskite**

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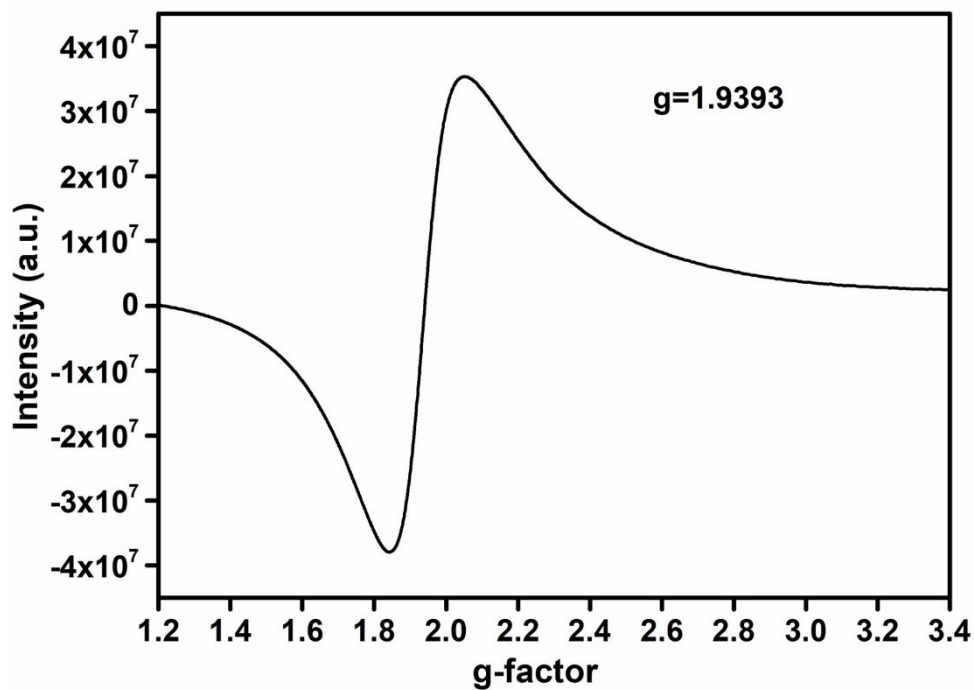


Fig. S1 EPR spectrum of SFRS sample.

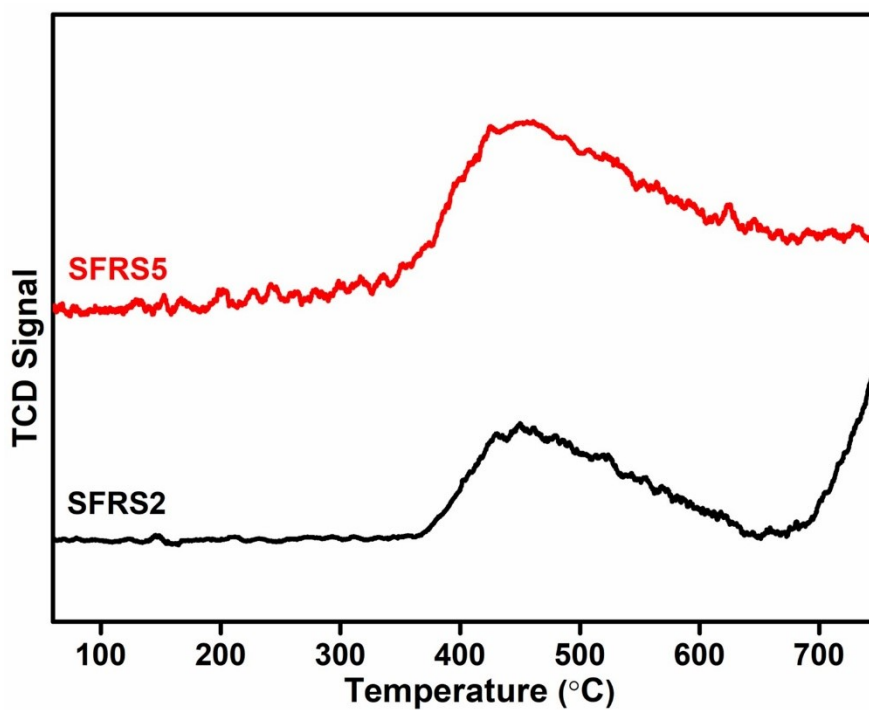


Fig. S2 TPD-  $O_2$  profile of SFRS2 and SFRS5.

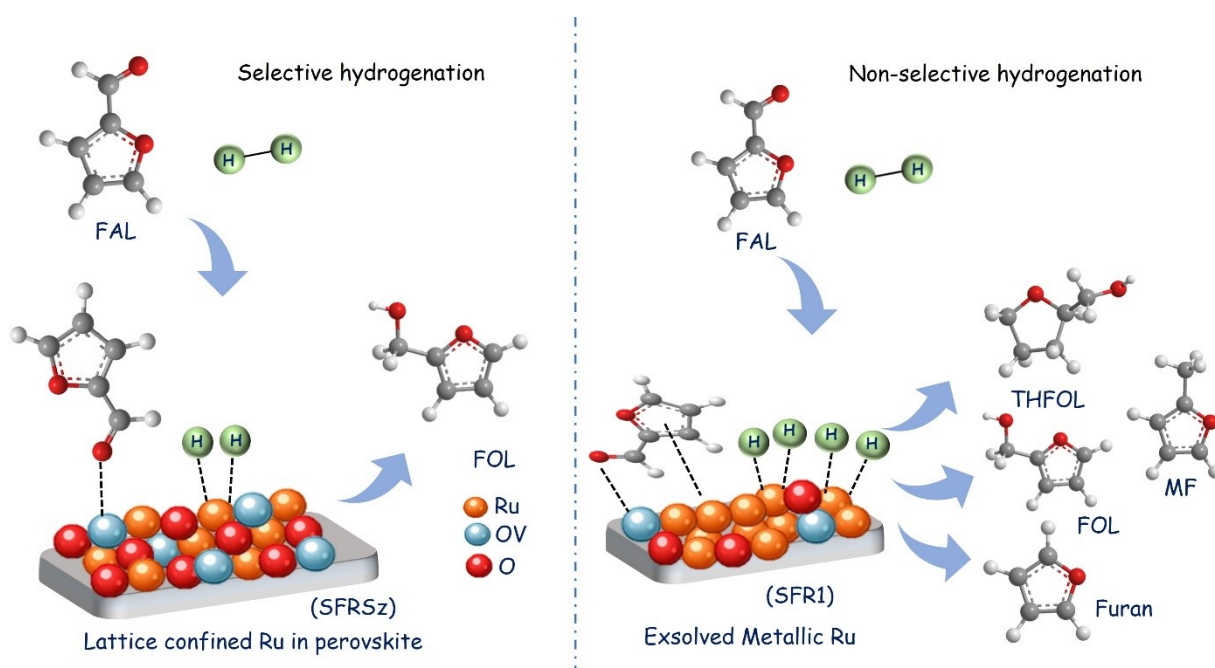
**Table S1:** Furfural hydrogenation over Ru based catalyst under optimum reaction

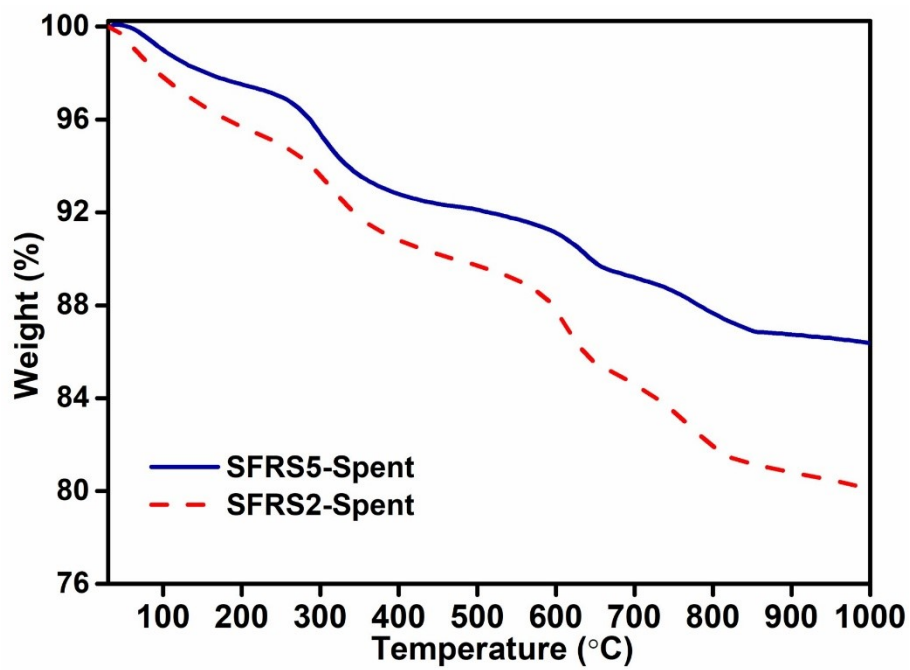
Sl.No.	Catalyst	Conversion (%)	Selectivity (%)			
			FAL	THFOL	2-MF	Other products <sup>b</sup>
1	Ru/Al <sub>2</sub> O <sub>3</sub>	100	1.0	60.7	-	38.3
2	Ru/SiO <sub>2</sub>	100	1.3	59.8	-	38.9
3	Ru/C	100	1.6	54.4	7.1	36.9

conditions.<sup>a</sup>

<sup>a</sup> Reaction conditions: Furfural = 2 mmol, Solvent (*iso*-propanol) = 2mL, H<sub>2</sub> pressure = 30 bar, Temperature=185 °C and Reaction time = 6 h.

<sup>b</sup> It include butanol, furfuryl isopropyl ether and other unidentified products.

**Fig. S3:** The plausible reaction mechanism on furfural hydrogenation over SFRS<sub>z</sub> and SFR catalysts.



**Fig. S4** TGA profile of spent SFRS2 and SFRS5 catalysts in air atmosphere.