Electronic Supplementary Information

Sample	Sr precursor	Fe precursor	Stoichometric ratio (mol/mol)	Solvent	Time at 180°C/hours	Calcination temperature/K (where applicable)
SF-POL-1	$Sr(NO_3)_2$	$Fe(NO_3)_3 \cdot 9H_2O$	1:2	Ethylene glycol (50 ml)	2	-
SF-POL-2	$Sr(NO_3)_2$	$Fe(NO_3)_3 \cdot 9H_2O$	1:1	PEG (50 ml)	2	-
SF-POL-3	$SrCO_3$	$FeCl_3 \cdot 6H_2O$	1:1	DEG (50 ml)	2	1173
SF-POL-4	$SrCO_3$	$FeCl_3 \cdot 6H_2O$	1:1	DEG (50 ml)	5	1173
SF-POL-5	$SrCO_3$	$FeCl_3 \cdot 6H_2O$	1:2	DEG (50 ml)	2	1173
SF-POL-6	$SrCO_3$	$FeCl_3 \cdot 6H_2O$	1:2	DEG (50 ml)	5	1173
SF-POL-7	$SrCO_3$	$FeCl_3 \cdot 6H_2O$	1:1	DEG (40 ml)	2	1173
SF-POL-8	$SrCO_3$	$FeCl_3 \cdot 6H_2O$	1:1	DEG (40 ml)	5	1173
SF-POL-9	$SrCO_3$	$FeCl_3 \cdot 6H_2O$	1:2	DEG (40 ml) + TENOH (2ml)	2	1173
SF-POL-10	$SrCO_3$	$FeCl_3 \cdot 6H_2O$	1:1	DEG (40 ml) + TENOH (2ml)	2	1173
SF-POL-11	$SrCO_3$	Fe(III)acac	1:2	DEG (40 ml) + TENOH (2ml)	2	1173
SF-POL-12	$SrCO_3$	Fe(III)acac	1:1	DEG (40 ml) + TENOH (2ml)	2	1173

Table SM1. Synthesis parameters used for the polyol-assisted syntheses

Sample	Temperature/K	*a* parameter /Å	*c* parameter/Å
SF-OX-02	1173	3.857±0.001	3.867±0.001
SF-OX-14	1273	3.856±0.001	3.869±0.001
SF-OX-15	1373	3.855±0.001	3.865±0.001
SF-OX-16	1573	3.855±0.001	3.862±0.001

Table SM2. Variation of the crystal cell parameters relative to each sample based upon calcination temperature

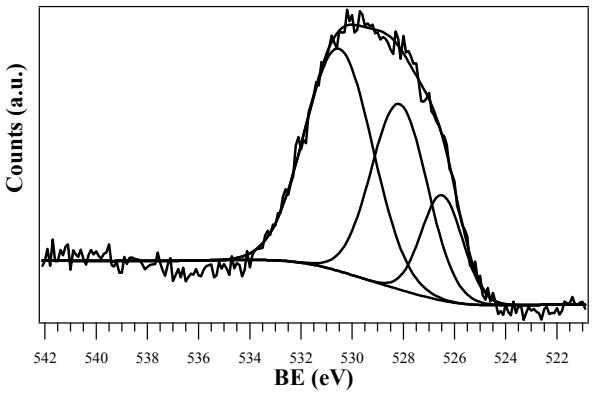

Figure SM3. XPS spectrum of the O1s region of sample SF-OX-2 and relative peak deconvolution

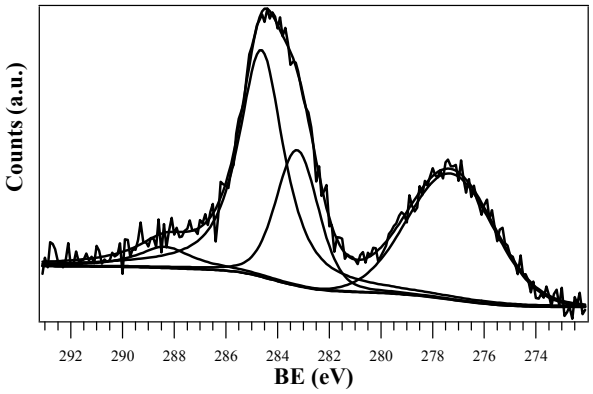

Figure SM4. XPS spectrum of the C1s region of sample SF-OX-2 and relative peak deconvolution