

Supplementary Information

Table 1S. Fitting parameter of XPS spectra La 3d of LBCS compounds.

Sample		La 3d					
		La 3d _{5/2}			La 3d _{3/2}		
LBCS-3	Peak Position (eV)	833.49	835.07	837.91	850.32	854.78	851.84
	Area(%)	15.03	22.62	23.19	10.02	14.06	15.09
LBCS-4	Peak Position (eV)	833.49	835.07	837.91	850.32	854.78	851.84
	Area(%)	15.03	22.62	23.19	10.02	14.06	15.09
LBCS-5	Peak Position (eV)	833.64	835.36	837.94	850.39	854.72	852.02
	Area(%)	19.10	17.83	23.06	12.74	15.38	11.89
LBCS-6	Peak Position (eV)	833.60	835.35	837.91	850.41	854.77	852.05
	Area(%)	18.99	18.14	22.86	12.67	15.25	12.10
LBCS-7	Peak Position (eV)	833.66	835.37	837.97	850.48	854.83	852.12
	Area(%)	17.94	18.66	23.39	11.96	15.60	12.45
LBCS-8	Peak Position (eV)	833.54	835.11	837.89	850.42	854.81	852.06
	Area(%)	14.20	20.28	23.24	11.84	16.91	13.53

Table 2S. Fitting parameter of XPS spectra Ba 3d, Ca 2p, and Sr 3d of LBCS compounds.

Sample		Ba 3d				Ca 2p		Sr 3d		
		Ba 3d _{5/2}		Ba 3d _{3/2}		Ca 2p _{3/2}	Ca 2p _{1/2}	Sr 3d _{5/2}	Sr 3d _{3/2}	
LBCS-3	Peak Position (eV)	778.13	779.62	793.49	794.98	346.44	349.98	132.26	133.88	134.49
	Area(%)	22.43	37.56	14.96	25.05	65.76	34.24	54.59	36.41	9.00
LBCS-4	Peak Position (eV)	778.13	779.62	793.49	794.98	346.44	349.98	132.26	133.88	134.49
	Area(%)	22.43	37.56	14.96	25.05	65.76	34.24	54.59	36.41	9.00
LBCS-5	Peak Position (eV)	778.26	779.70	793.61	795.08	346.52	350.07	132.38	134.06	135.45
	Area(%)	28.41	31.58	18.95	21.06	67.66	32.34	49.03	47.08	3.90
LBCS-6	Peak Position (eV)	778.23	779.71	793.57	795.06	346.49	350.04	132.32	134.00	135.13
	Area(%)	25.87	34.11	17.26	22.75	64.38	35.62	53.59	39.60	6.81
LBCS-7	Peak Position (eV)	778.23	779.73	793.53	794.93	346.57	350.15	132.42	134.12	135.43
	Area(%)	32.42	29.91	17.72	19.95	65.85	34.15	54.44	40.82	4.74
LBCS-8	Peak Position (eV)	778.16	779.67	793.49	795.03	346.56	350.14	132.34	134.05	135.31
	Area(%)	30.47	29.52	20.32	19.69	67.06	32.94	52.33	44.57	3.10