

Table 1

The preparation and specific surface area of the $\text{La}_{0.95}\text{Ba}_{0.05}\text{MnAl}_{11}\text{O}_{19}$ catalysts

Catalysts ID	Composition	W/P*	W/B*	SSA*
LMBA-1	$\text{La}_{0.95}\text{Ba}_{0.05}\text{MnAl}_{11}\text{O}_{19}$	1:1	1:1	35.5
LMBA-2	$\text{La}_{0.95}\text{Ba}_{0.05}\text{MnAl}_{11}\text{O}_{19}$	1:1	1:2	53.0
LMBA-3	$\text{La}_{0.95}\text{Ba}_{0.05}\text{MnAl}_{11}\text{O}_{19}$	1:1	1:3	64.7
LMBA-4	$\text{La}_{0.95}\text{Ba}_{0.05}\text{MnAl}_{11}\text{O}_{19}$	1:1	1:4	54.7
LMBA-5	$\text{La}_{0.95}\text{Ba}_{0.05}\text{MnAl}_{11}\text{O}_{19}$	1:0	1:2	17.3
LMBA-6	$\text{La}_{0.95}\text{Ba}_{0.05}\text{MnAl}_{11}\text{O}_{19}$	1:3	1:1	28.0
LMBA-7	$\text{La}_{0.95}\text{Ba}_{0.05}\text{MnAl}_{11}\text{O}_{19}$	1:4	1:2	22.5
LMBA-8	$\text{La}_{0.95}\text{Ba}_{0.05}\text{MnAl}_{11}\text{O}_{19}$	1:5	1:4	27.0
LMBA-9	$\text{La}_{0.95}\text{Ba}_{0.05}\text{MnAl}_{11}\text{O}_{19}$	1:1	1:0	15.5

*Notes: Preparation: $\text{M}(\text{OR})_x/\text{water}=1/100$ (mole ratio); W/P, the volume ratio of water to 2-propanol; W/B, the volume ratio of water to n-butanol; SSA, Specific surface area