

CATALYST, PRODUCTION METHOD FOR CATALYST, AND PRODUCTION
METHOD FOR α,β -UNSATURATED ALDEHYDE AND/OR α,β -UNSATURATED
CARBOXYLIC ACID USING SAME

ABSTRACT

An object of the present invention is mainly to provide a catalyst with which an α,β -unsaturated aldehyde and/or an α,β -unsaturated carboxylic acid can be produced with a high selectivity. Provided is a catalyst used for producing, by an oxidation reaction of a hydrocarbon, a corresponding α,β -unsaturated aldehyde and/or α,β -unsaturated carboxylic acid, and the catalyst contains molybdenum, bismuth, and cobalt, and satisfies the following Formula (I-1): $(x_2 - x_1)/\sigma_1 \leq 1.5$ (I-1) In Formula (I-1), x_1 , x_2 , and σ_1 are values obtained by binarizing a reflected electron image of the catalyst, which is obtained using a scanning electron microscope (SEM) at an accelerating voltage of 15 kV, into black and white and subsequently performing an energy dispersive X-ray spectroscopy (EDS) analysis; x_1 represents a bismuth concentration [% by mass] in black parts; x_2 represents a bismuth concentration [% by mass] in white parts; and σ_1 represents a standard deviation of the bismuth concentration in the black parts.

(Figure 1.)