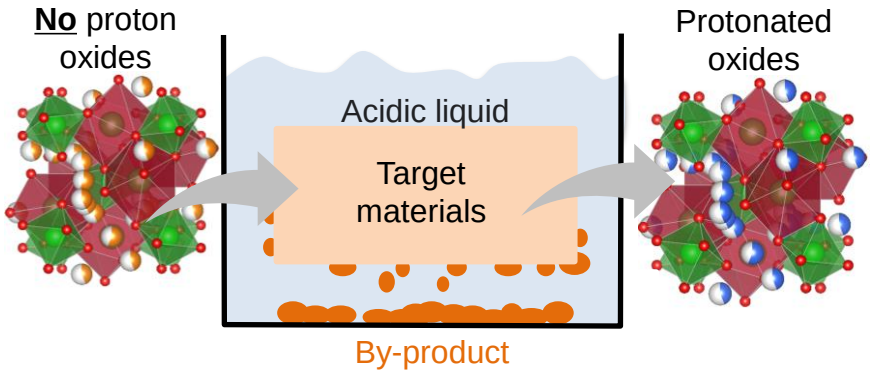
Tohoku Univ. Technology

Method for producing Proton-containing oxides

Expand the variety of proton-containing ceramics.

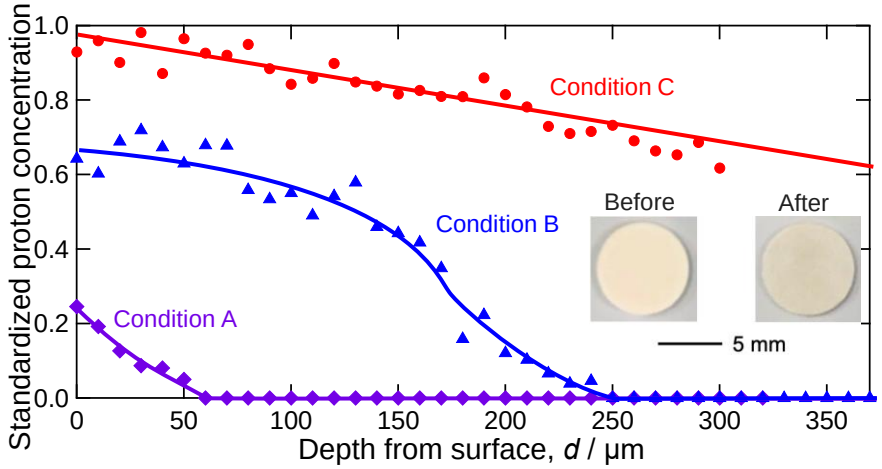


Overview

In order to commercialize various ceramic electrochemical devices such as fuel cells, hydrogen production cells, hydrogen sensors, ammonia synthesis cells, etc., research and development of proton-conducting oxides has been actively carried out. However, high proton conductivity has been achieved only for oxides in a few type of crystal structures. This makes difficult to develop practical proton-conducting ceramics having mixed conductivity, chemical stability, and sinterability.

The present invention is an ion-exchange technique using a high-temperature acidic liquid. This technique enables easy conversion from a wide variety of aprotic oxides to oxides containing proton at a high level.

Example for oxide with proton



Product Application

- Fuel cell
- Hydrogen sensor
- Ammonia synthesis cell

Related Works

IP Data

IP No.	:	patent applied for
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