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Evolution of bulk and surface structures in stoichiometric LaAlO_3 mixed oxide prepared by using starch as template

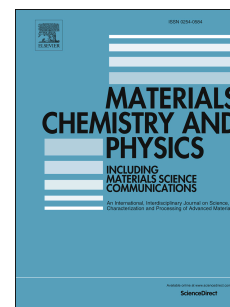
Vassilis N. Stathopoulos, Tatyana Kuznetsova, Olga Lapina, Dzhaliil Khabibulin, Pavlos K. Pandis, Tamara Krieger, Yuri Chesalov, Roman Gulyalev, Vladimir Krivensov, Tatyana Larina, Vladislav Sadykov

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Highlights

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- Successful synthesis of LaAlO_3 using starch
- LaAlO_3 nucleation was identified within a mixed lanthanum-aluminum precursor at 700°C
- Residual OH groups and anions stabilize the nanocomposite structure of perovskite
- Perovskite with a La rich surface with distortions partly persistent upto 1300°C

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