Title: Morphological and structural characterization of CrO2/Cr2O3 films grown by laser-CVD

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Abstract: This work reports on the synthesis of chromium (III, IV) oxides films by KrF laser-assisted CVD. Films were deposited onto sapphire substrates at room temperature by the photodissociation of Cr(CO)(6) in dynamic atmospheres containing oxygen and argon. A study of the processing parameters has shown that partial pressure ratio Of O-2 to Cr(CO)(6) and laser fluence are the prominent parameters that have to be accurately controlled in order to co-deposit both the crystalline oxide phases. Films consistent with such a two-phase system were synthesised for a laser fluence of 75 mJ cm(-2) and a partial pressure ratio of about 1. (c) 2005 Elsevier B.V. All rights reserved.

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