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 **OpticaJ and structuraJ characteristics of Y**203 **thin fihl1S synthesized froro yttrium acetylacetonate**

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Ab truct Yttrium oxide lhin film are tlepo itcJ 00 silicoo subSlr3res usiog the ultrasonl spray pyr Iysil:. technique from th therma! decolllposiri o 01 a *¡J-*hk [ oale, yrlrÍum acetylacetonatc (Y(llcach). The d e mp siti n of Y(acach was studicd by !:herm gravimerry. diffcrential scanning calonmetry, mass spectromctry, and infrared spectro e pj. (t wa.s fauod th:lt a p-diker ne ¡igand' [ost during 1/1 inJlia! steps o dccompo ilion of lh Y(ac ch. The re ( f be complcx is !ben dissociatcJ ()( dcgradcd partially unLiI Y20J is obtained iIl !:he .na! tep with Lhe rrcscnce *oC* C;)rb n related residues. Then the Y(acac) W3$ uJ,cd lO ynmcsizc 'lO) thin films using !:he spray pyr Iysis lechnique Thl! films were depo ilCd n silicon . ubSln.lleS allernp 'rotureS in the nlOge f 40 550 oc. TIle filll1~ wcr cbarnclcrized by elhp ometry, i.nfr..ued specLrO ·opy. atomic force micro·copy, and X-ray diffrac[Ínn. Th filrns pro enlcd a low

urfacc roughness with an index of rcfra ti n close 10 l. . The crystallioc stru r:ure f ¡he fi¡m~ depended on u,' sub srrale temperature; films deposite al 400 " wer mainly amorphous. bUl higher Jep<.JsiLion temperarures l450-50 oC), resulted in polycryst3lline \ ¡lh a cubic crysullint! pbasc. .

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