

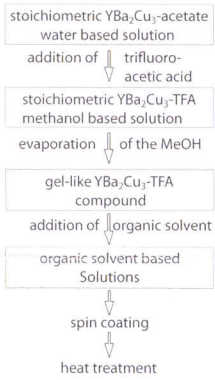
# Improved TFA precursors for (RE)Ba<sub>2</sub>Cu<sub>3</sub>O<sub>7-δ</sub> thin film deposition by MOD

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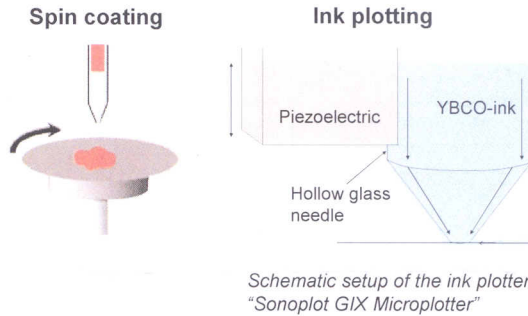
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## Solution preparation

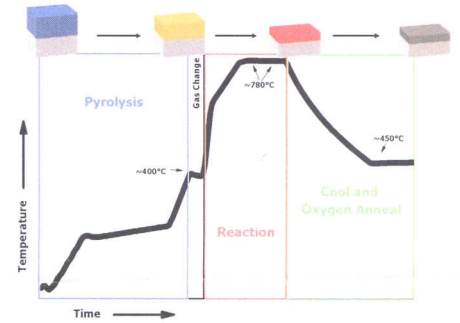
### Organic solvent based solutions



## Deposition techniques

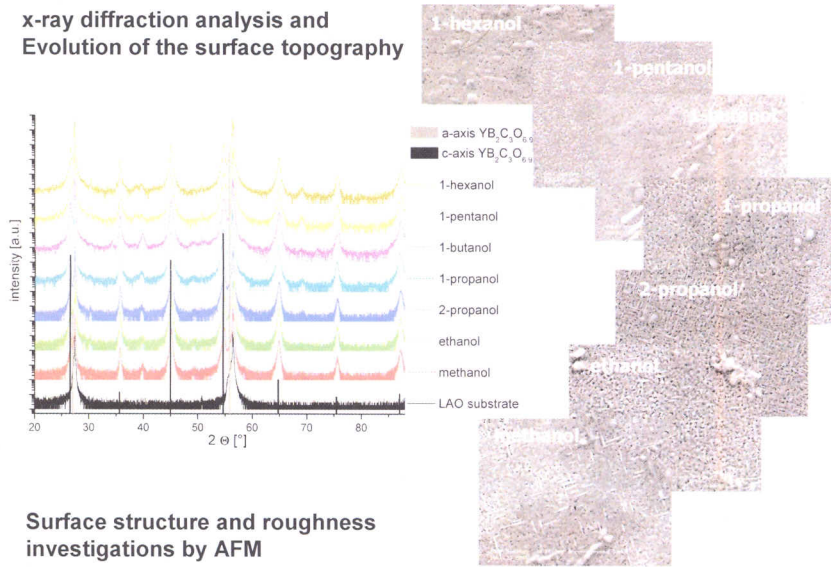


## Heat treatment



## Variation of the alcohol solutions

### x-ray diffraction analysis and Evolution of the surface topography



## Microplotter technique - Advantages

Filamented structures of YBCO-thin films for reduction of ac-losses

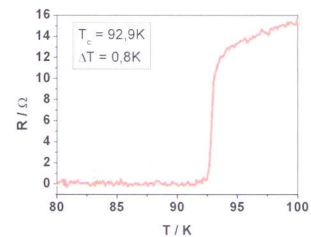


example of a YBCO-pattern, plotted on STO substrate

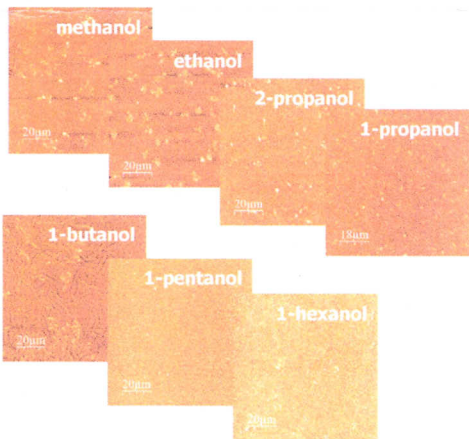
Combinatorial synthesis



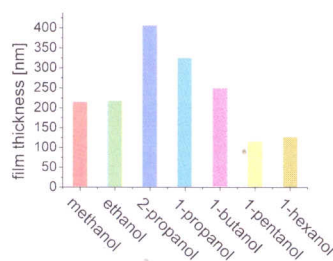
### Superconducting properties of a YBCO plotted thin film structure



### Surface structure and roughness investigations by AFM



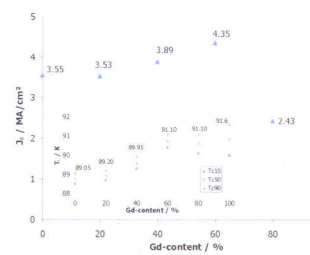
### Film thickness and roughness analysis



## Methanol-based solutions

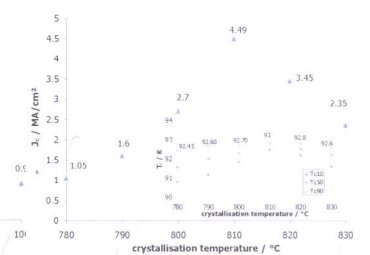
### Varying ratios Y : Gd

(0; 20; 40; 60; 80; 100 % Gd) on LAO T<sub>cryst</sub> = (780°C)



### GdBCO-solutions

on LAO at different T<sub>cryst</sub> (780-840°C)



### Superconducting properties of the films based on different solvents

