Study on photocatalyst coatings of Cr-TiO_2 by MCT

Graduate School & Faculty of Engineering, Chiba University **Yun Lu Laboratory** *http://apei.tu.chiba-u.jp/Luyun-HP.html*

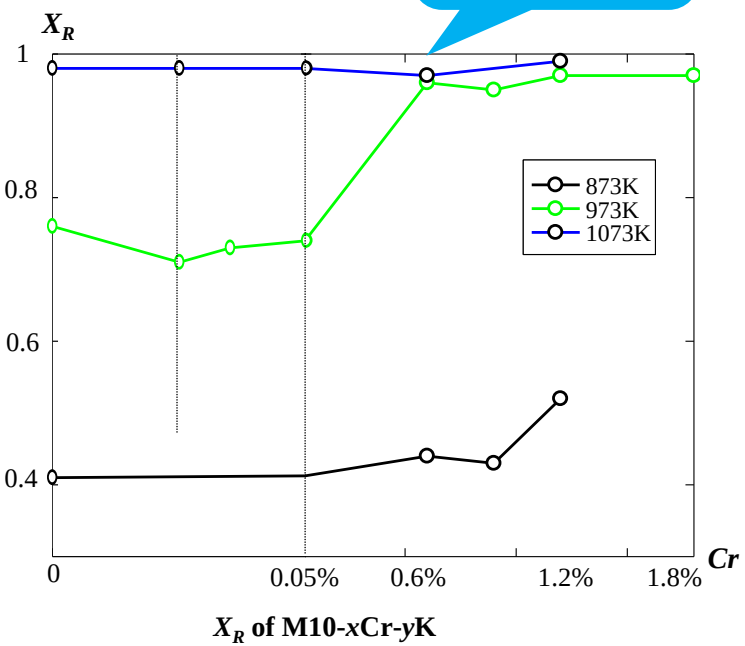
Aim: to study the influence of temperature on photocatalyst composite coatings of Cr-TiO_2

Experiment:

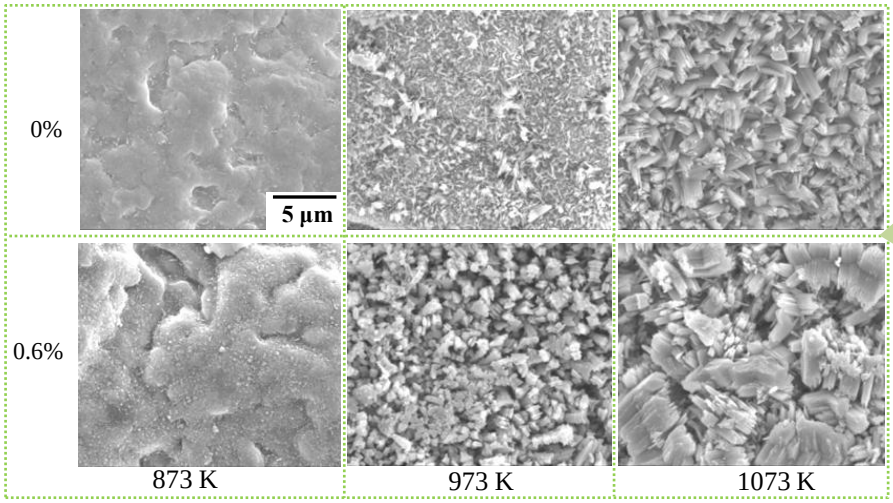
1. Cr: 0% - 1.8 %
2. MCT: 480 rpm for 10 h
3. Oxidation:
   temp.: 873-1073 K
   time: 15 h

Temp.↑ →X_R ↑

Cr ↑ →X_R ↑

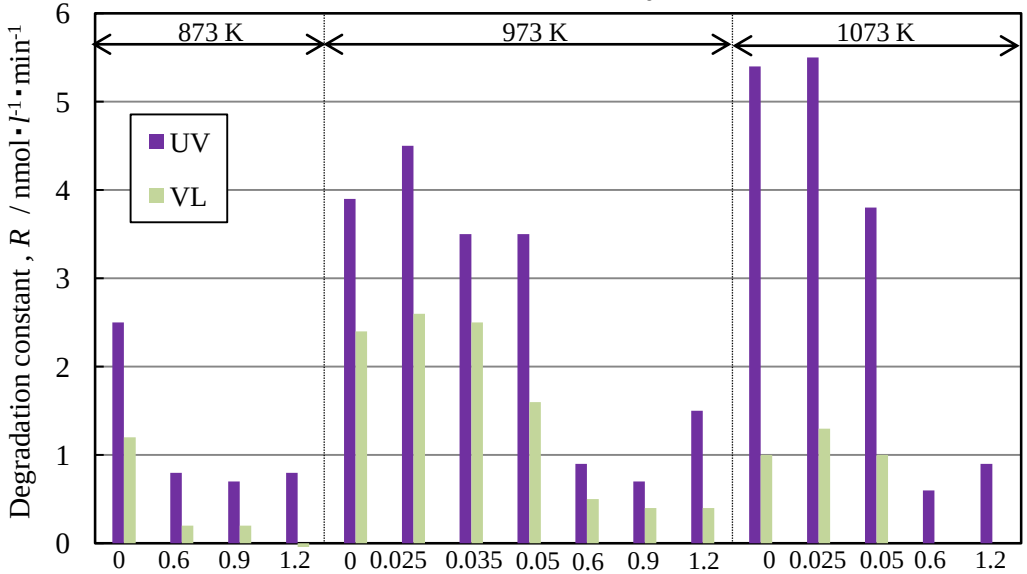


X_R **of M10-*x*Cr-*y*K**



Surface structure of M10-*x*Cr-*y*K

Effect of **temp.** and **Cr**



Degradation rate of M10-*x*%Cr-*y*K samples.

Photocatalytic activity (PA):

1. Temp. ↑ → PA under UV ↑, 973 K → PA is best under visible light;
2. Cr ↑ → PA increased with litter content of Cr, then decreased

1. S. Guan, et al . IFAMST-9. (2014)