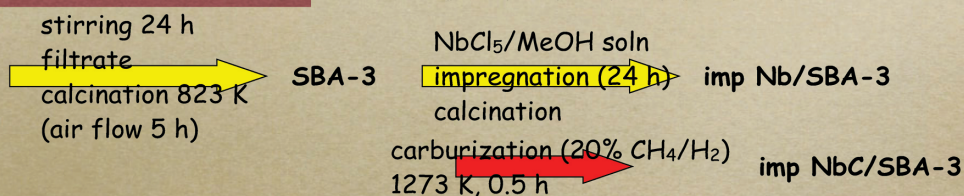


in situ XAFS for NbC catalyst

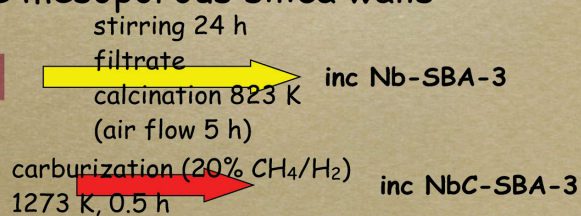
NbC introduced into the mesoporous silica

TEOS, CTMABr, H₂O, HCl CTMABr: [CH₃(CH₂)₁₅N(CH₃)₃]Br (C16)



NbC incorporated into the mesoporous silica walls

TEOS, CTMABr, H₂O, HCl+NbCl₅



in situ XAFS for NbC catalyst

Nb K-edge *in-situ* XAFS measurement

Curve-fitting analysis

$k_3\chi(k)$ in k -space by REX2000 (Rigaku Co.)

in-situ condition

carburization

CH₄: 30 cm³·min⁻¹

H₂: 120 cm³·min⁻¹

TPR heating rate: 5 K·min⁻¹

sampling rate: ~ 10 min/spectrum

SOR
2.5 GeV
PF IMSS-KEK (Tsukuba)
Proposal No. 2002G116

