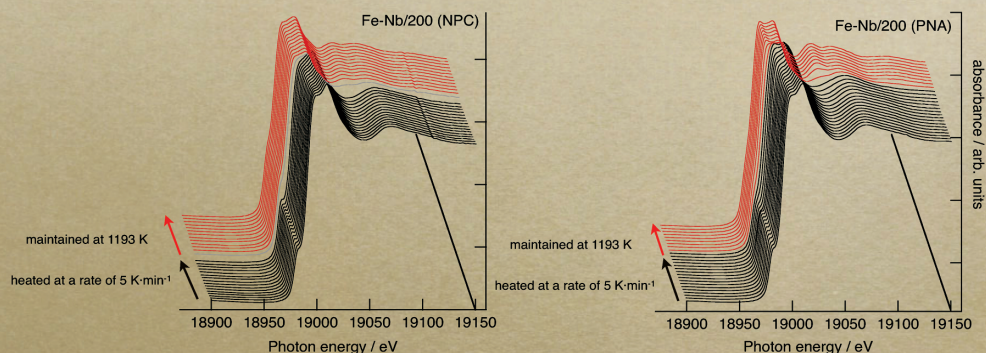


Preparation of NbN without using NH_3

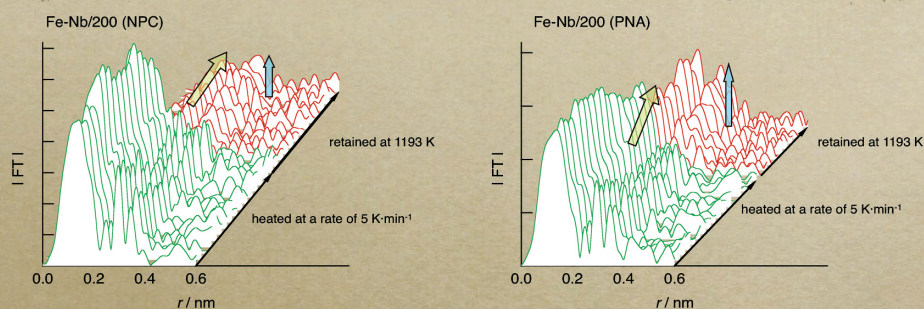
Nb前駆体: NbCl_5 (NPC)とperoxoniobic acid (PNA) (Fe前駆体: $\text{Fe}(\text{NO}_3)_3$)



In situ XANES spectra during nitriding process for Fe-Nb/200 catalyst

Tendency of γ - peak growth was different;
NPC: slow and not clear,
PNA: fast and distinct.

Preparation of NbN without using NH_3



In situ EXAFS spectra during nitriding process for Fe-Nb/200 catalyst.

Peak of Nb-N intensity;
NPC: gradually grows at temperature retention step,
PNA: grows at heating step.

Peak of Nb-Nb intensity;
NPC: small,
PNA: grows at heating step and clearly observed.