

Figure S1 Evolution of transmission spectrum during the zeolite film growth (top) and representation of λ_R as a function of synthesis duration (bottom).

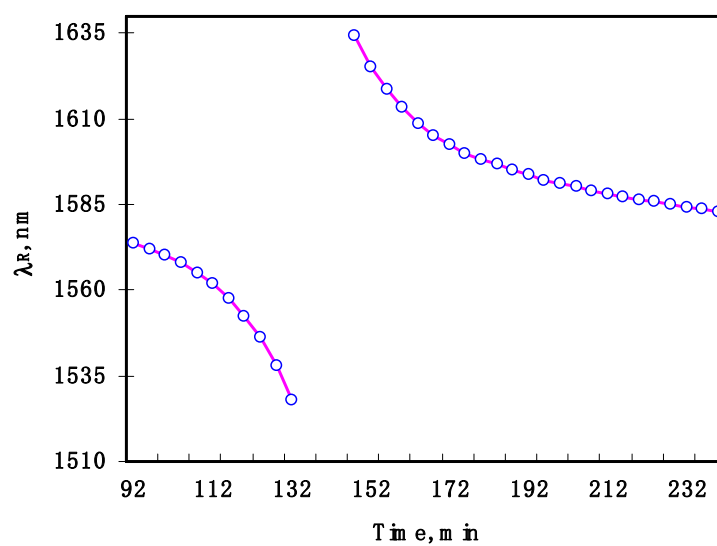
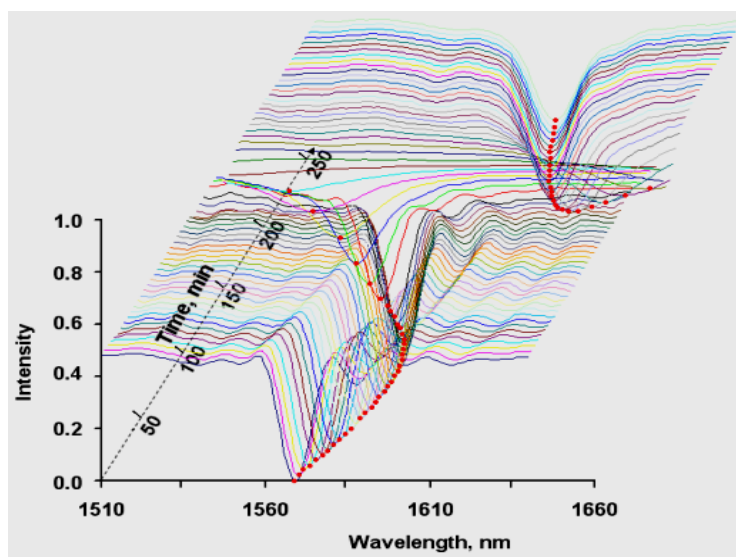


Figure S2 Single wavelengths for temporal sensing response measurement at various temperatures.

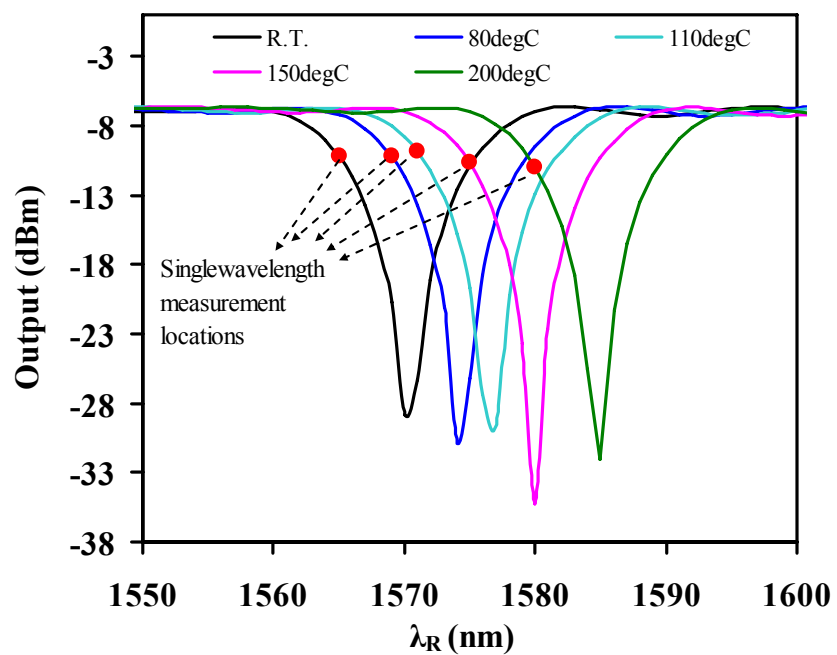
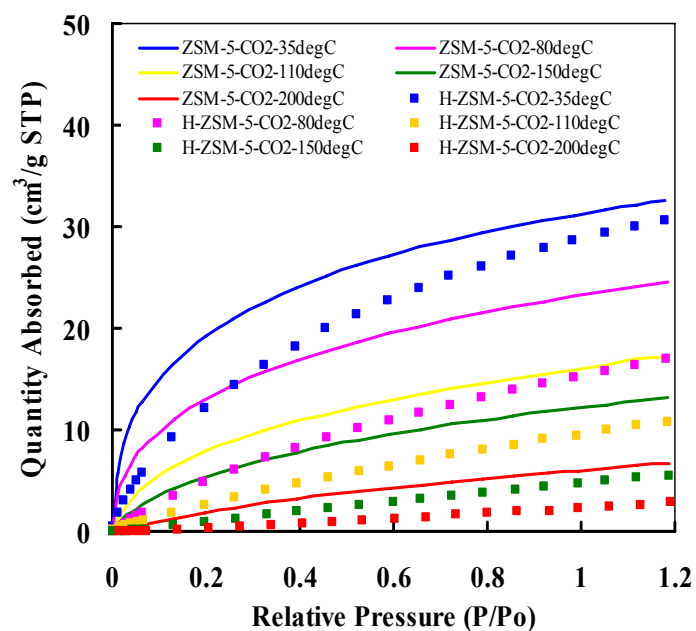
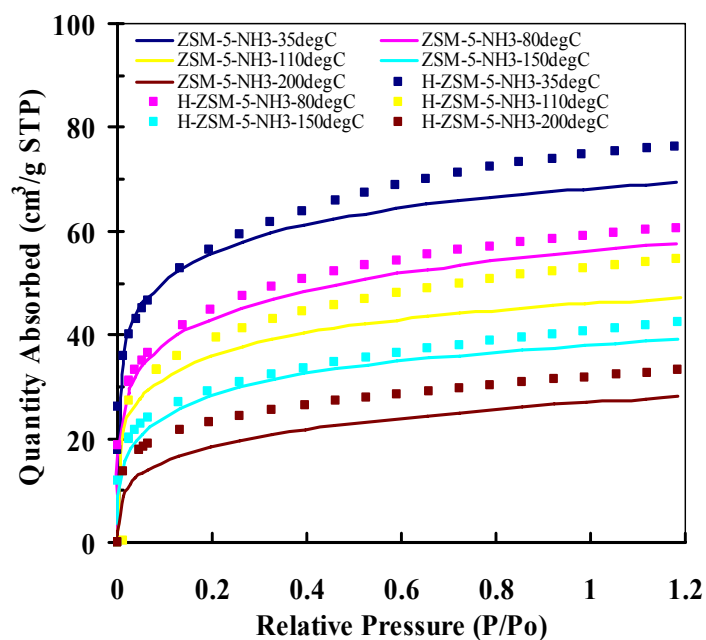


Figure S3 Adsorption isotherms of pure CO₂ and NH₃ on ZSM-5 and modified H-ZSM-5 zeolite powders respectively: (a) CO₂ and (b) NH₃.



(a)



(b)

Figure S4 NH_3 and CO_2 adsorption isotherms and $\beta_{\text{NH}_3/\text{CH}_4}$ in ZSM-5 and HZSM-5 zeolites

