

Electronic Supplementary Information

Room-temperature synthesis and optimized photoluminescence of a novel red phosphor $\text{NaKSnF}_6\text{:Mn}^{4+}$ for application in warm WLEDs

Luqing Xi^a, Yuexiao Pan^{*a}, Mengmeng Zhu^a, Hongzhou Lian^b, Jun Lin^{*b}

^a Key Laboratory of Carbon Materials of Zhejiang Province, College of Chemistry and Materials Engineering, Wenzhou University, Wenzhou 325035, P.R. China.

*E-mail: yxpan8@gmail.com; Fax&Tel: +86-577-8837-3017

^b State Key Laboratory of Rare Earth Resource Utilization, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, P.R. China

*E-mail: jlin@ciac.ac.cn; Fax: +86-431-85698041; Tel: +86-431-85262031

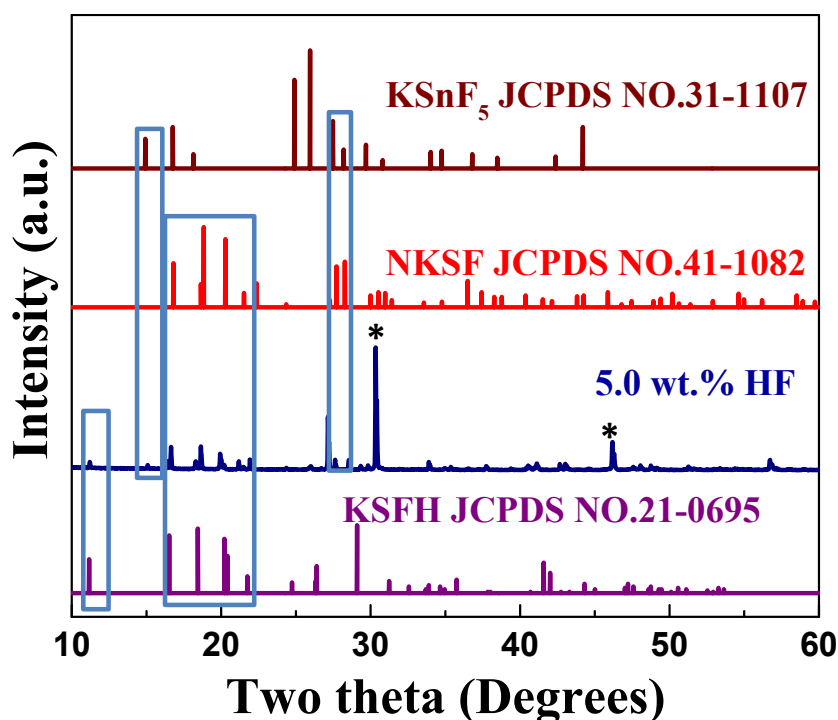


Figure S1. XRD patterns of the sample obtained in the reaction with 5.0 wt. % HF and JCPDS cards for KSFH, NKSF, and KSnF_5 .

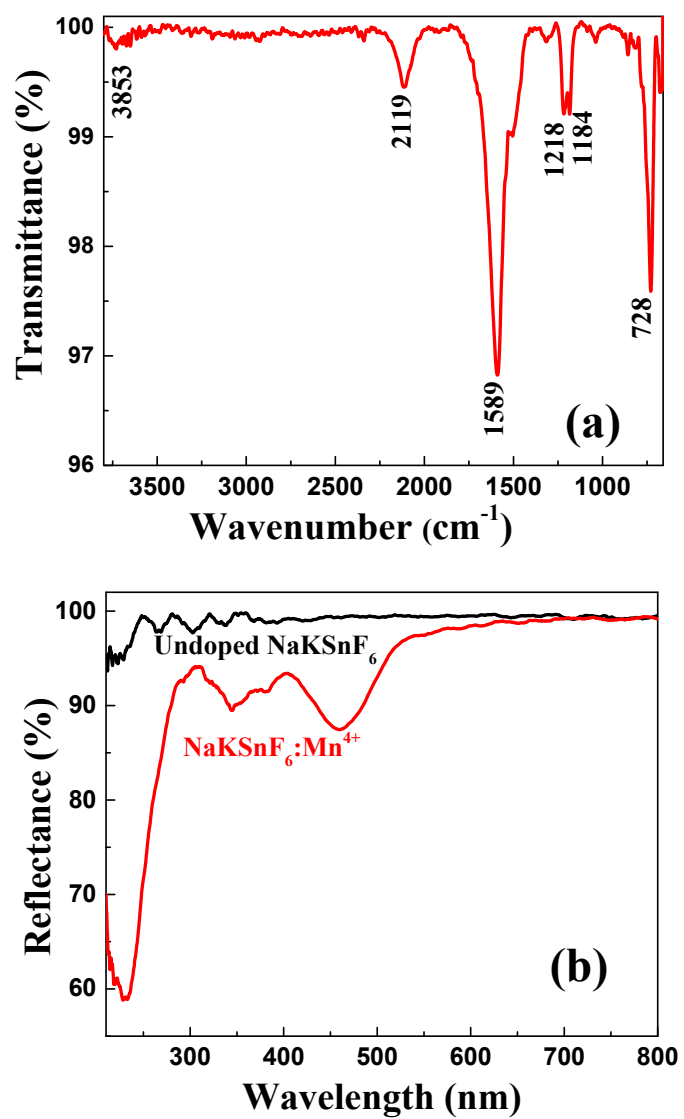


Figure S2. (a) IR spectrum of $\text{NaKSnF}_6\text{:Mn}^{4+}$ sample, (b) diffuse reflectance spectra of undoped NaKSnF_6 and red phosphor $\text{NaKSnF}_6\text{:Mn}^{4+}$.

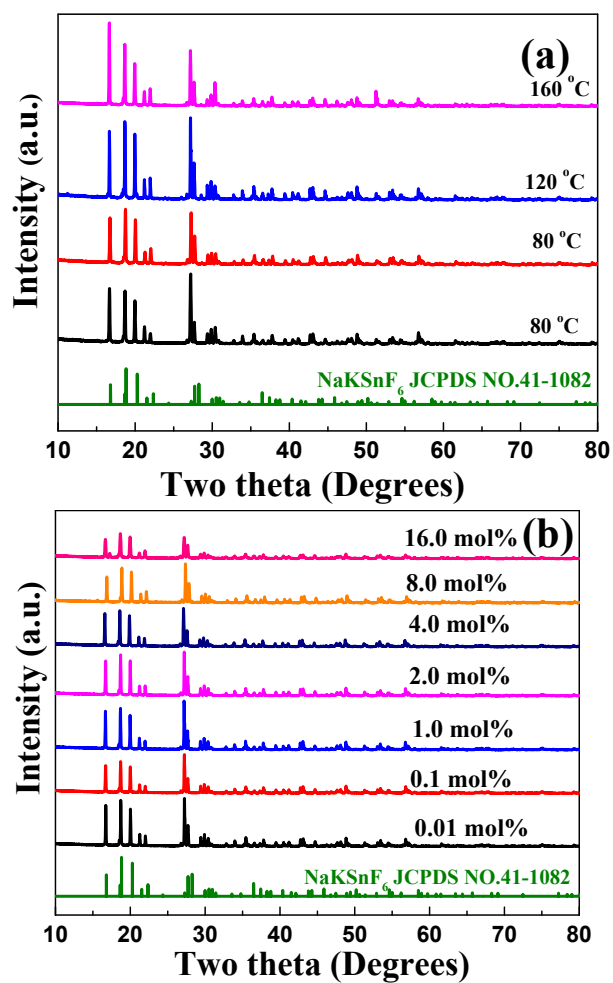


Figure S3. XRD patterns of NaKSnF₆:Mn⁴⁺ dependent on (a) reaction temperature and (b) the concentration of K₂MnF₆.