

Electronic Supplementary Information

In situ organic solvent-free synthesis of a novel red emitting Mn^{4+} doped KRbGeF_6 phosphor at room temperature

Yajun Jia,^a Yuexiao Pan,^{a*} Jiawen Zhu,^a Xi'an Chen,^a Aiyin Wang,^a Hongzhou

Lian,^b Jun Lin^{b*}

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

E-mail: yxpan@wzu.edu.cn; Fax&Tel: +86-577-88373017

^bState 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

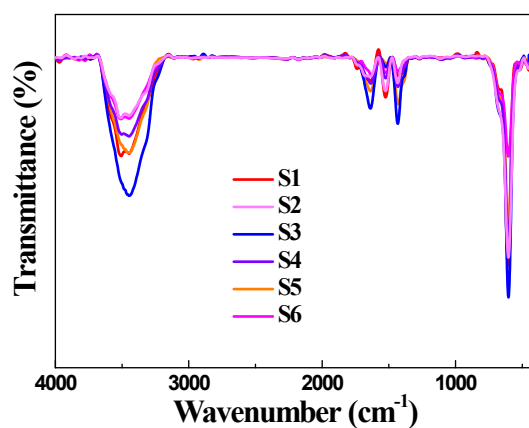


Fig. S1 IR spectra of $\text{KRbGeF}_6\text{:Mn}^{4+}$ phosphors prepared in various acid solutions HF (S1), H_2SO_4 (S2), HCl (S3), HNO_3 (S4), CH_3COOH (S5), and H_3PO_4 (S6) with concentration of 10 wt%.

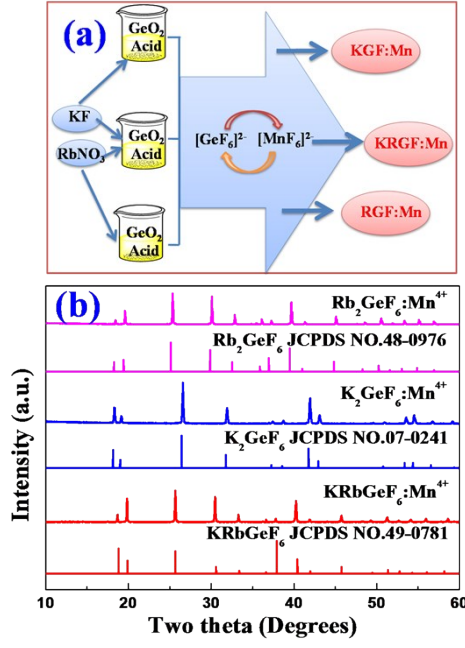


Fig. S2 (a) Schematic illustration of the synthesis of the Mn⁴⁺ doped red phosphors K₂GeF₆, KRbGeF₆, and Rb₂GeF₆ in HCl solution, and (b) the corresponding XRD patterns.