

Transition of emission colours as a consequence of heat-treatment of carbon coated Ce³⁺-doped YAG phosphors

Liang-Jun Yin ^{1,2,*†}, Benjamin Dierre ^{3,*†}, Takashi Sekiguchi ⁴, J. Ruud van Ommen ², Hubertus T. (Bert) Hintzen ³, Yujin Cho ^{4,*†}

¹ School of Energy Science and Engineering, University of Electronic Science and Technology of China, 2006 Xiyuan Road, Chengdu 610051, China

² Department of Chemical Engineering, Faculty of Applied Sciences, Delft University of Technology, Van der Maasweg 9, 2629 HZ Delft, The Netherlands; J.R.vanOmmen@tudelft.nl

³ Luminescent Materials Research Group, Faculty of Applied Sciences, Delft University of Technology, Mekelweg 15, 2629 JB Delft, The Netherlands; h.t.hintzen@tudelft.nl

⁴ Semiconductor Device Materials Group, International Center for Materials Nanoarchitectonics (MANA), National Institute for Materials Science (NIMS), 1-1 Namiki, Tsukuba, Ibaraki 305-0044, Japan; sekiguchi.takashi@nims.go.jp

* Correspondence: ylj@mail.ustc.edu.cn (L.J.Y.); b.f.p.r.dierre@tudelft.nl (B.D.); cho.yujin@nims.go.jp (Y.C.)

† These authors contributed equally to this work.

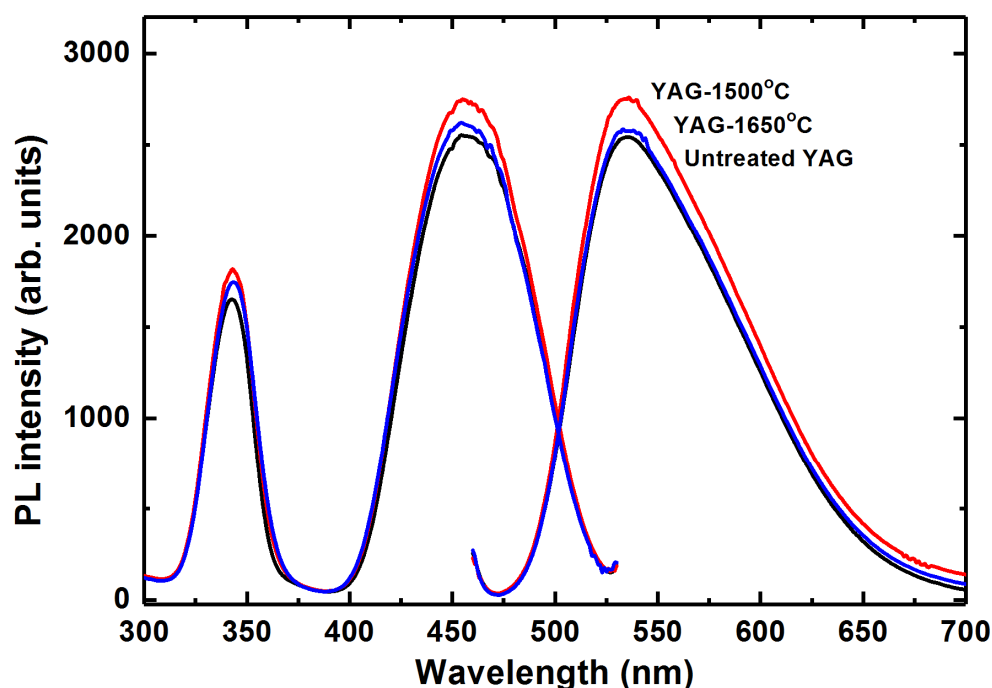


Figure S1. PLE ($\lambda_{em}=540nm$) and PL ($\lambda_{ex}=460nm$) spectra of untreated YAG:Ce³⁺, YAG:Ce³⁺-1500 °C and YAG:Ce³⁺-1650 °C.

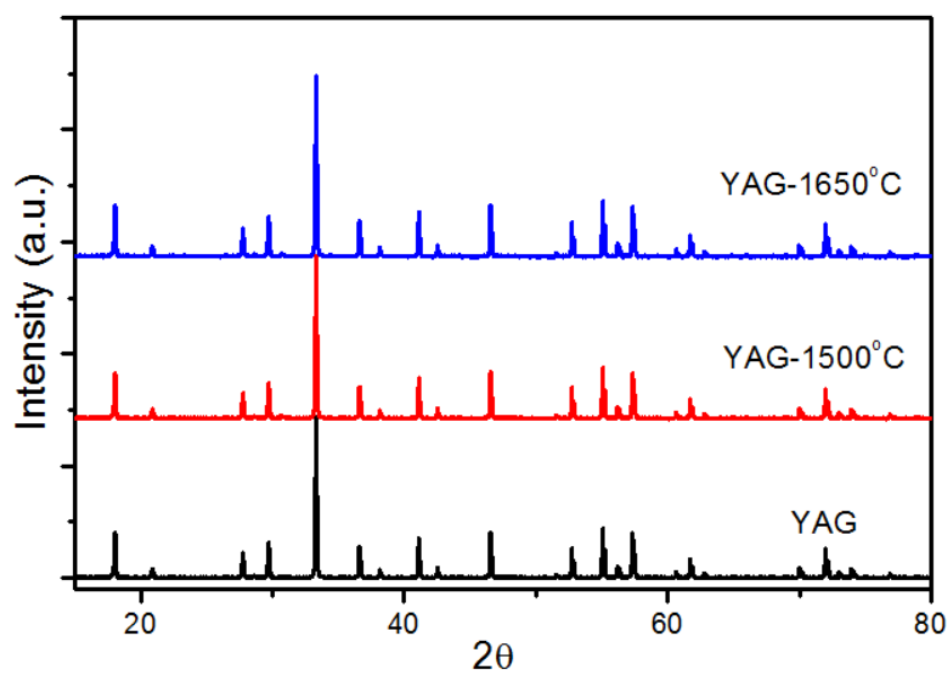


Fig. S2. XRD patterns for untreated YAG:Ce³⁺, YAG:Ce³⁺-1500 °C and YAG:Ce³⁺-1650 °C.