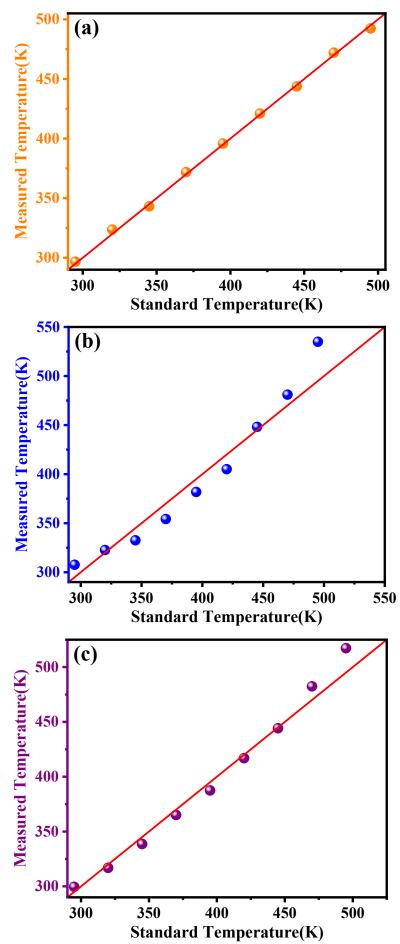
Electronic Supplementary Material (ESI) for CrystEngComm. This signation and the second for the second seco



(a) The measured temperature and the standard temperature for fluorescence intensity ratio thermometry using the core-shell structure NaYF<sub>4</sub>:  $Yb^{3+}/Tm^{3+}@NaYF_4$ :  $Yb^{3+}/Er^{3+}$  nanoparticles at 520 nm and 538 nm (the red line is the baseline where the measured temperature equals the standard temperature); (b) The measured temperature and the standard temperature for fluorescence intensity ratio thermometry using the bare nucleus structure NaYF<sub>4</sub>:  $Yb^{3+}/Tm^{3+}$  nanoparticles at 700 nm and 646 nm (the red line is the baseline where the measured temperature equals the standard temperature); (c) The measured temperature and the standard temperature for fluorescence intensity ratio thermometry using the bare nucleus structure NaYF<sub>4</sub>:  $Yb^{3+}/Tm^{3+}$  nanoparticles at 700 nm and 646 nm (the red line is the baseline where the measured temperature equals the standard temperature); (c) The measured temperature and the standard temperature for fluorescence intensity ratio thermometry using the bare nucleus structure NaYF<sub>4</sub>:  $Yb^{3+}/Er^{3+}$  nanoparticles at 520 nm and 538 nm (the red line is the baseline where the measured temperature equals the standard temperature for fluorescence intensity ratio thermometry using the bare nucleus structure NaYF<sub>4</sub>:  $Yb^{3+}/Er^{3+}$  nanoparticles at 520 nm and 538 nm (the red line is the baseline where the measured temperature equals the standard temperature for fluorescence intensity ratio thermometry using the bare nucleus structure NaYF<sub>4</sub>:  $Yb^{3+}/Er^{3+}$  nanoparticles at 520 nm and 538 nm (the red line is the baseline where the measured temperature equals the standard temperature) structure NaYF<sub>4</sub>:  $Yb^{3+}/Er^{3+}$  nanoparticles at 520 nm and 538 nm (the red line is the baseline where the measured temperature equals the standard temperature) structure NaYF<sub>4</sub>:  $Yb^{3+}/Er^{3+}$  nanoparticles at 520 nm and 538 nm (the red line is the baseline where the measured temperature equals the standard temperature) structure NaYF<sub>4</sub>:  $Yb^{3+}/Er^{3+}$  nanoparticles a