



(a) The measured temperature and the standard temperature for fluorescence intensity ratio thermometry using the core-shell structure NaYF₄: Yb³⁺/Tm³⁺@NaYF₄: Yb³⁺/Er³⁺ 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 NaYF₄: Yb³⁺/Tm³⁺ 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 NaYF₄: Yb³⁺/Er³⁺ nanoparticles at 520 nm and 538 nm (the red line is the baseline where the measured temperature equals the standard temperature).