

ABSTRACT

The present application relates to the field of optical lighting technology. Embodiments of the present application provide a full-color biomimetic phosphor composition, a full-color biomimetic phosphor film, and a full-color biomimetic light source. The full-color biomimetic phosphor composition includes: a first phosphor with a light-emitting wavelength of 480 nm to 500 nm, a second phosphor with a light-emitting wavelength greater than 500 nm and smaller than 620 nm, and a third phosphor with a light-emitting wavelength greater than or equal to 620 nm. A mass ratio of the first phosphor, the second phosphor, and the third phosphor is (15 to 70): (15 to 70): (13 to 70). By adjusting the ratio of a plurality of different phosphors whose light-emitting wavelengths are dispersedly distributed in the visible light band, the full-color biomimetic phosphor composition is excited to generate white light with low blue optical power, high color rendering index, and high red optical power. The white light highly simulates the natural light, increases comfort during use, and reduces harm to the human body.

FIG. 16