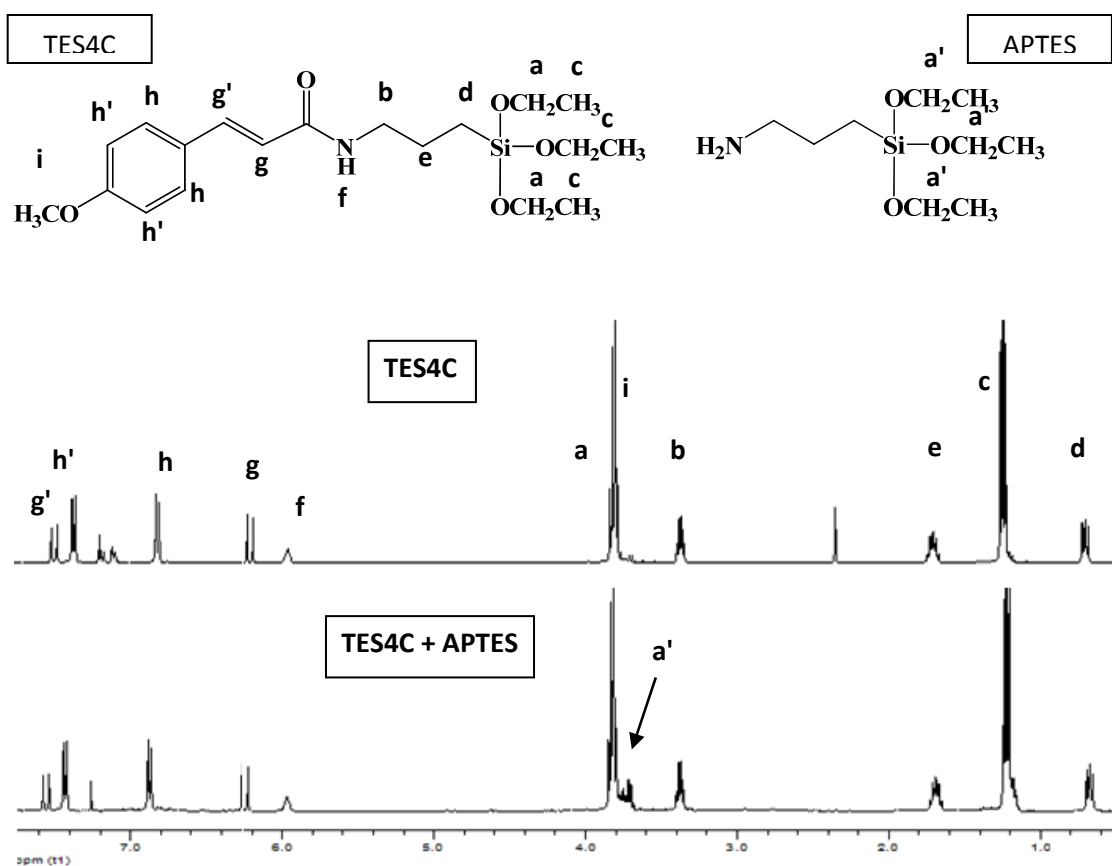


## Organic-inorganic hybrid polysilsesquioxane nanospheres as UVA/UVB absorber and fragrance carrier.

Punnipa Kidsaneepoiboon,<sup>a,b</sup> Supason Pattanaargson Wanichwecharungruang,<sup>\*a</sup> Tianchai Chooppawa<sup>a</sup> and Rattakan Deephum<sup>a</sup>



**Figure 1** <sup>1</sup>H-NMR spectra (in CDCl<sub>3</sub>) of triethoxysilylpropyl-4-methoxycinnamamide (TES4C) and the mixture of TES4C and APTES at the mole ratio of 5:1.

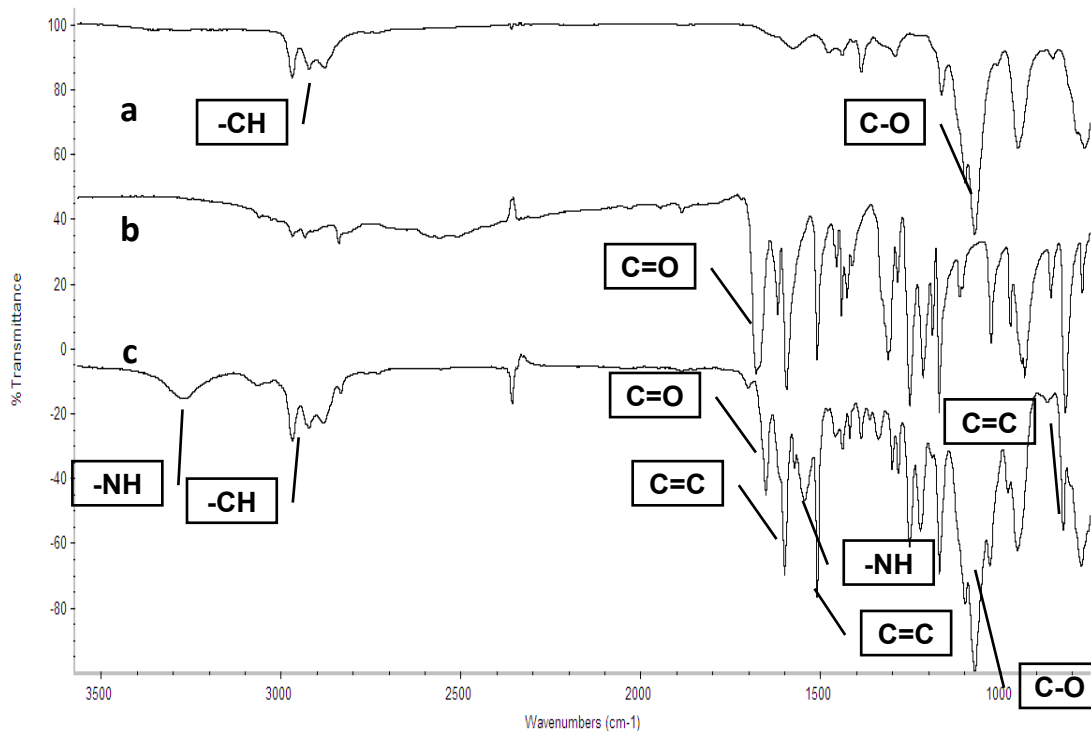


Figure 2 FT-IR spectra of 3-aminopropyltriethoxysilane (APTES) (a), 4-methoxycinnamic acid (b) and triethoxysilylpropyl-4-methoxycinnamide, (TES4C) (c).

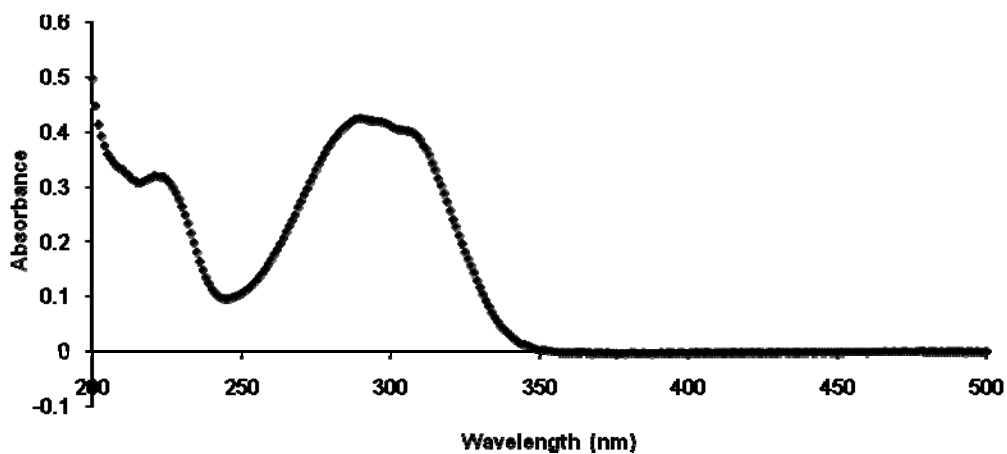
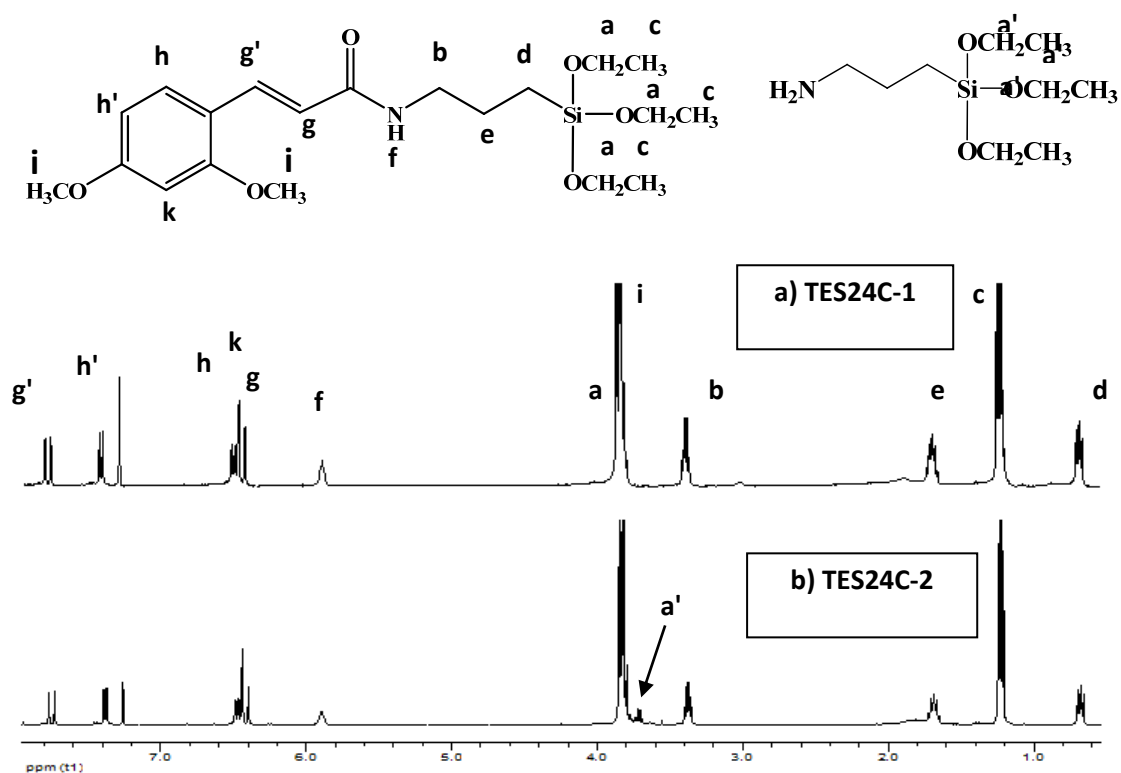
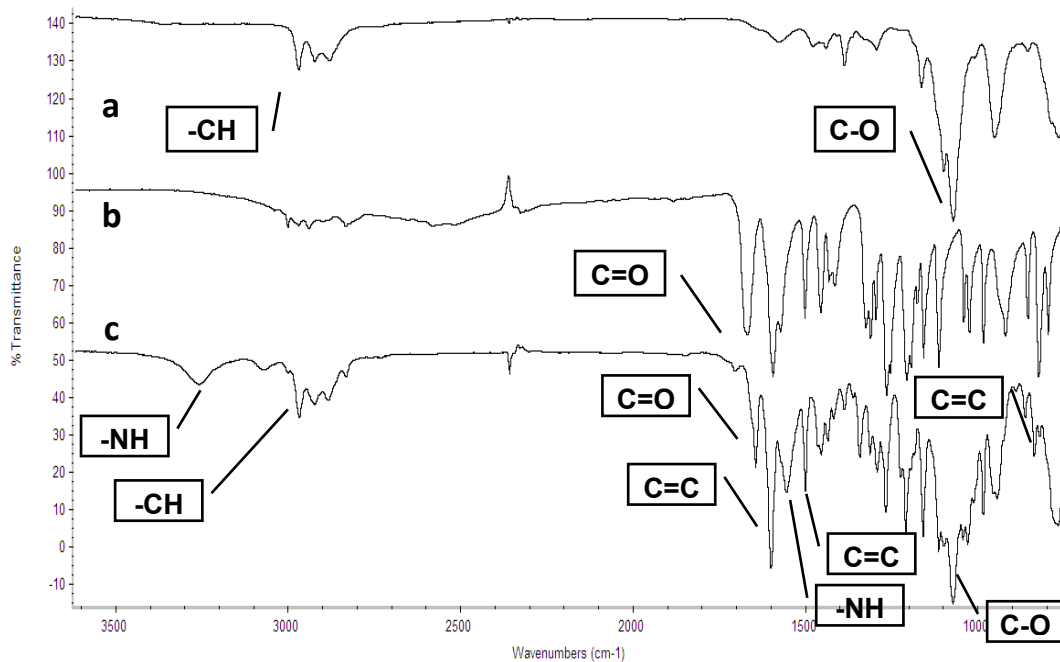


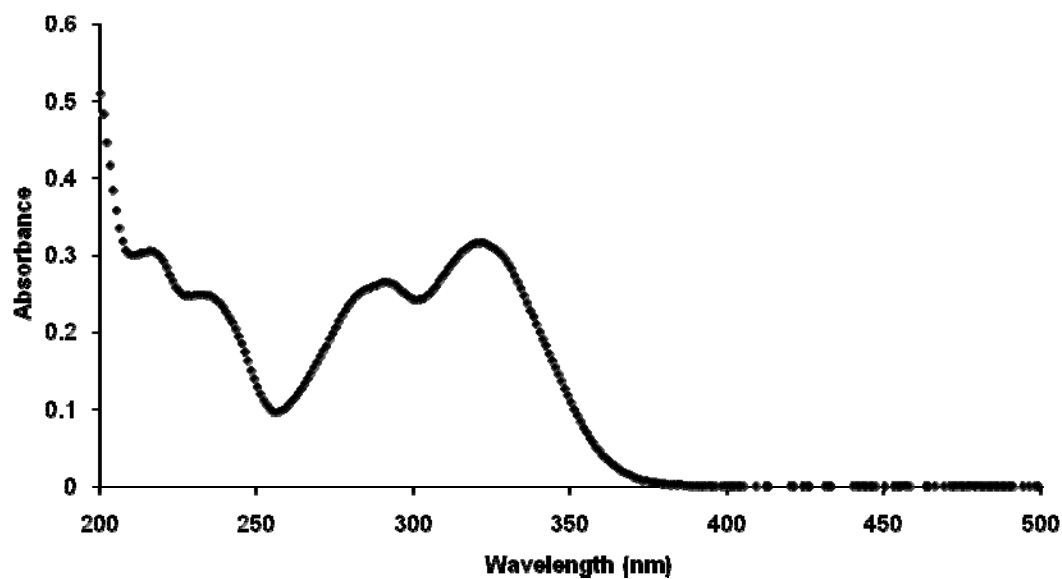
Figure 3 UV absorption spectrum of  $1.0 \times 10^{-5}$  M TES4C in ethanol.



**Figure 4** <sup>1</sup>H-NMR spectra (in CDCl<sub>3</sub>) of triethoxysilylpropyl-2,4-dimethoxycinnamamide (TES24C) and the mixture of TES24C and APTES at the mole ratio of 5:1.



**Figure 5** FT-IR spectra of 3-aminopropyltriethoxysilane (**APTES**) (a), 2,4-dimethoxycinnamic acid (b) and triethoxysilylpropyl-2,4-dimethoxycinnamamide (**TES24C-1**) (c).



**Figure 6** UV absorption spectrum of 1.0 x 10<sup>-5</sup> M **TES24C** in ethanol.