Abstract

Luminescence sensors based on LED were prepared by modification of LED polycarbonate surface and following binding of luminescence dyes on this surface. Two methods of modification were utilized. The first one was the oxidation of the surface yielding free carboxylic groups. Such modified LEDs were then covered by cationic cresyl violet dye. The second modification consisted of nitration and consequent reduction to free amino groups followed by binding of anionic sulforhodamine dye. The stability of emission and the stability of dye binding were studied. Then, the response of constructed sensors to toluene as analyte in gas and liquid phase was measured.