To investigate the sensibility effect of the biogenic Ag–NPs toward Pb2+ and Cu2+metal ions, lead and cupric ions solutions with concentrations of 10–3, 10–4 and 10–5 M were added to the Ag–NPs solution. For example, the addition of 10–3 M of Pb2+ resulted in a bathochromic shift of the plasmon absorption of 14 nm, from 400 to 414nm; however, with less concentration of the metal ions the shift diminish, from 400 to 411nm and from 400 to 408nm with concentrations of 10–4 and 10–5 M, respectively. These results are shown in Figure 7.