**Abstract**

A new quinoline appended pyrazoline derivative, 3-(1- benzothiazol-2-yl-5-furan-2yl-4,5-dihydro-1Hpyrazol-3yl)-4-hydroxy-1Hquinoline-2-one (QFP) sensor was synthesized and showed high selectivity and sensitivity towards Ni2+ ion in H2O-DMSO(9:1) at pH = 7.4 in PBS buffer. Theoretical study of absorption behavior is quite agreeable with the experimental value. In addition, the sensor can be used as an intracellular imaging agent to monitor nickel ions in live cells and also environmental monitoring.