

The direct detection of OTA in undiluted beer accelerates testing and makes it possible to detect the OTA quantities below the maximal admissible levels established for foodstuffs [13,14].

4. Conclusions

In this work, an impedimetric aptasensor has been developed for OTA detection on the base of novel aptamer carrier based on Au nanoparticles suspended in the dendrimeric hydrophilic polymer Boltorn H30[®]. Measurements of electrochemical properties of the modifier confirmed the high activity of Au nanoparticles in the electron transduction as well as improvement of the aptasensor characteristics in comparison with Boltorn H30[®] and naked electrode. The use of the polymeric form of Neutral Red and thiolated aptamer against OTA made it possible to develop an easy protocol of aptamer immobilization and ensured the high sensitivity of the response. A LOD of 0.02 nM achieved under optimal conditions of biolayer assembly is lower than that of similar aptasensors with other signal transduction principles.

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Conflicts of Interest

The authors declare no conflict of interest.

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