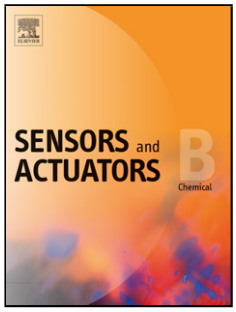

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Highly sensitive detection of dopamine using a graphene functionalized plasmonic fiber-optic sensor with aptamer conformational amplification

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Highlights

- A plasmonic optical fiber grating sensor detects dopamine variations in human serum.
- Aptamer conformational transition improves the sensor sensitivity and selectivity.
- Limit of detection is 10^{-13} M and measurement range with a linear response from 10^{-13} to 10^{-8} M.
- The sensor is compact in size and provides temperature/power self-calibration ability.