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Abstract

Micromechanical cantilevers show great potential as highly sensitive biochemical sensors. Cantilever-based sensing involves the transduction of a biomolecular interaction to a measurable mechanical change in the cantilever resulting from induced surface stresses added mass. In surface stress sensing applications, one side of the cantilever beam is rendered sensitive to a specific target molecule, while the opposing surface is chemically passivated .When target molecules interact with the sensitized surface of the cantilever, the change in surface stress between the sensitized and passivated surfaces results in a measurable mechanical deflection of the cantilever beam.This paper shows micro cantilever based bio

detection and different integrated read-out methods and their characterization. We also show that cantilevers have a increased sensitivity by changing their shape and geometry. Recent advances in MEMS promise considerable and realistic potential for the development of innovative and high performance sensing and diagnostic approaches in biomedical field.

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Keywords

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