BIOMEDICAL DIAGNOSTICS WITH CAVITANDS

E. Dalcanale
Dipartimento di Chimica Organica e Industriale, Università di Parma and INSTM UdR di Parma, Parma, Italy

The presentation will deal with the biomedical applications of cavitand-based sensing devices. Two major topics will be treated:
1. Detection of sarcosine in urine. Sarcosine is the new marker for the aggressive forms of prostatic cancer. Three different detection modes will be presented, both featuring tetraphosphonate cavitands as selective receptors for sarcosine: (i) fluorescent displacement detection using a cavitand-decorated silicon wafer, (ii) nanomechanical sensing (figure 1) and (iii) conductimetric sensing using cavitand-decorated single-walled carbon nanotubes.
2. Detection of illicit drugs and synthetic highs. A new detection system for the specific detection of N-methyl amphetamines will be presented.

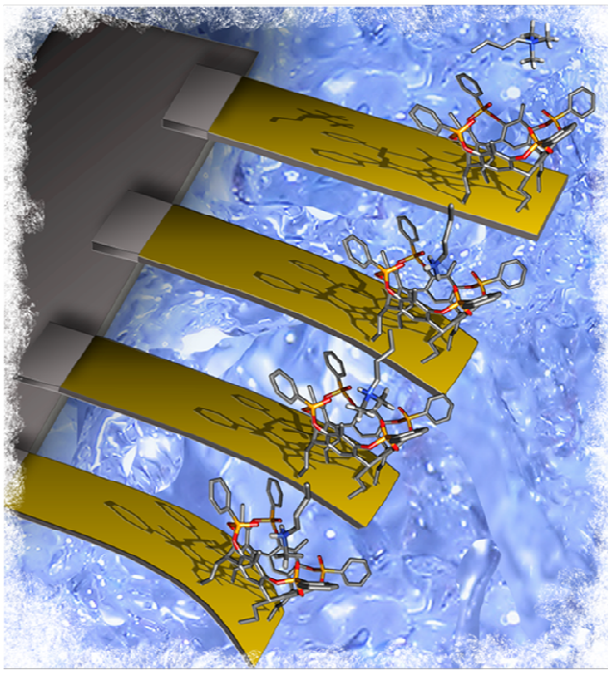

Figure 1