**ANALYTICAL STRATEGIES TO OBTAIN LOWER DETECTION LIMITS**

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Analytical chemistry has become a very important tool to overcome the problems in many science disciplines and industries. Most of the studies performed by analytical chemists are directly related with public health. It is known that many inorganic/organic analytes have adverse health effects even at trace levels on human health (1-3). Low limits therefore require sensitive analytical methods for accurate and precise determinations. For this purpose, different analytical strategies have been developed and applied for the determination of various organic/inorganic analytes in a variety of environmental and biological samples. In general, development of a sensitive, accurate and inexpensive analytical method is aimed by analytical chemists. Different sensitive but expensive analytical instruments including ICP-MS have been used in literature. In place of buying sensitive but expensive instruments, different preconcentration methods and basic modifications are coupled to relatively low sensitive analytical instruments to lower their detection limits. Different on-line and off-line preconcentration strategies have been developed to perform the sensitive determination of analytes with high accuracy and precision [1,2]. Many extraction methods have been used for this purpose for the separation and preconcentration of analytes from different matrices. In addition, conversion of analytes into their volatile species is another popular strategy for the determination of some elements at trace levels. Trapping studies (slotted quartz tube, tungsten, quartz pieces…) also attract the attention of many scientists as to get lower detection limits for many elements [3].

**KEYWORDS**: Detection limit, analytical strategy, preconcentration, trapping

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