Abstract

The research work carried out in present study was focused on development of simple, fast, efficient, reliable and miniaturized sample preparation techniques and development of highly sensitive LC-MS/MS based methods for the detection and unambiguous identification of convention related chemicals (CRCs) in different environmental matrices. The developed sample preparation protocols as well as LC-MS/MS methods were validated by performing analysis of blind samples provided by the OPCW during different official proficiency tests. The developed analytical methods were found sufficiently superior to other methods reported in literature in terms of simplicity and sensitivity. The contents of the present thesis shall be very useful for proving the compliance and non-compliance of the CWC by using LC-MS and/or LC-MS/MS. Moreover, it also helps research laboratories in achieving or maintaining the status of designation by OPCW for off-site analysis of CWAs and their environmental markers.