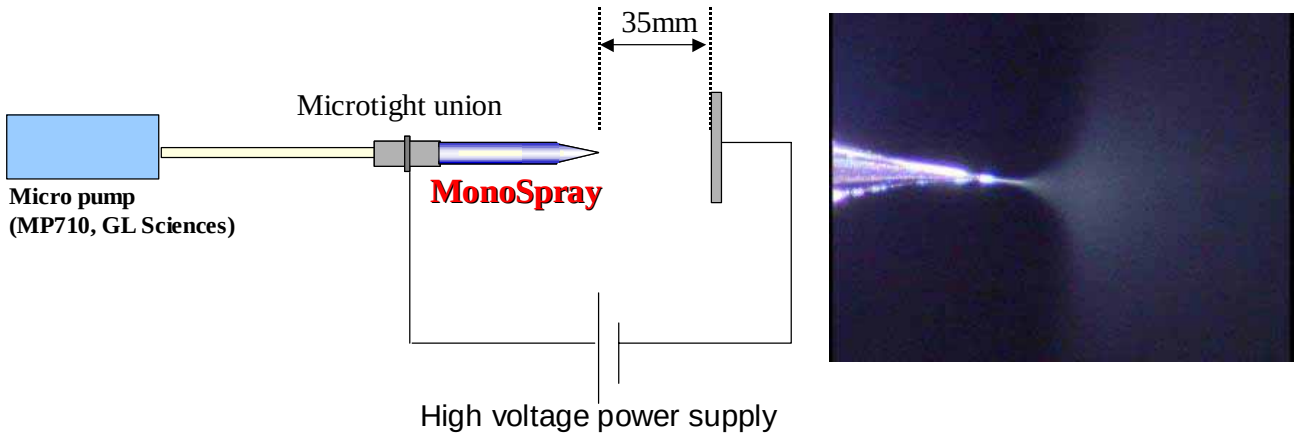
Silica-based monolithic emitter for electrospray ionization
MonoSpray

A conventional packed ESI emitter was made of spherical silica particle that was packed into a capillary. However, the lack of reproducibility between lots was indicated, which was due to the difficulties of preparation. A monolithic emitter was fabricated from silica monolith capillary column. This emitter dose not need any frits, and does not required the slurry packing for preparation. In addition, silica monolith capillary column was known to produce higher column efficiency compared with particle packed capillary column.

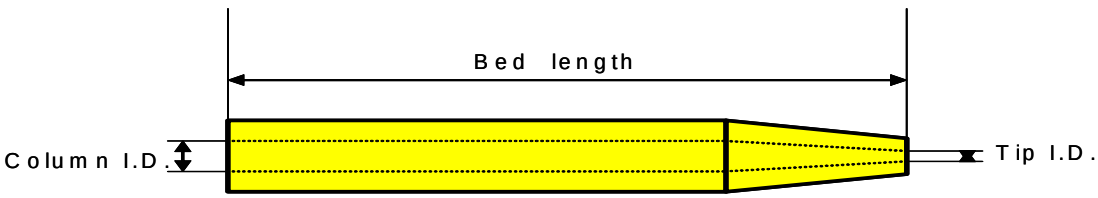


Instrumentation for evaluating the performance of MonoSpray

Feature

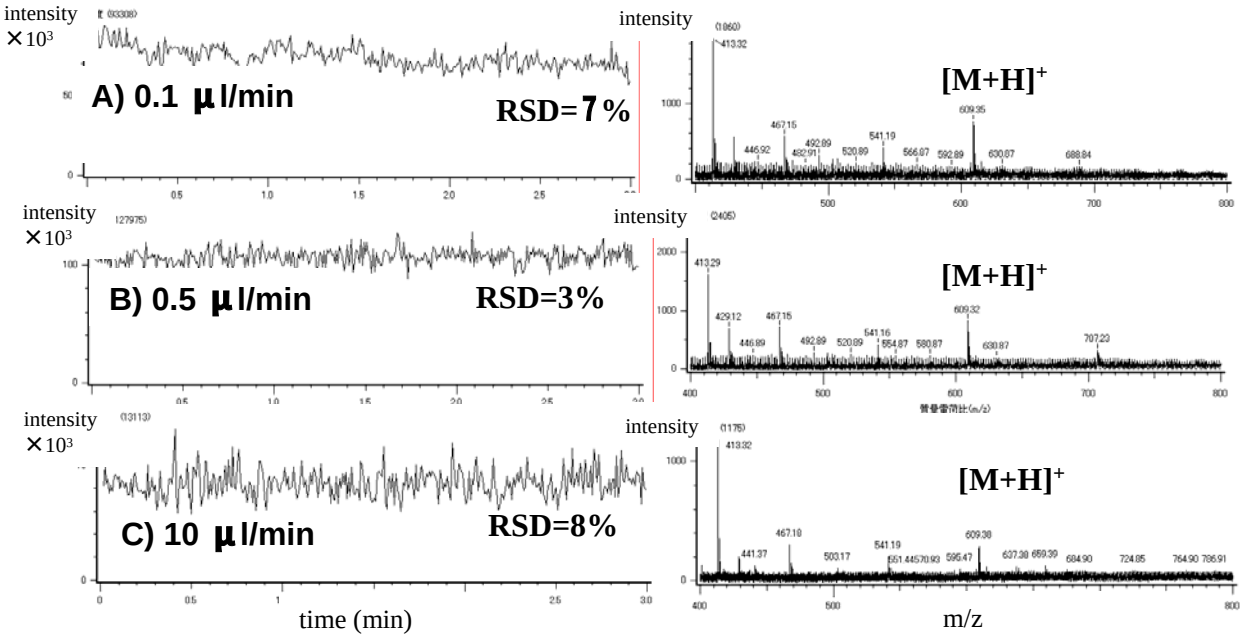
★ MonoSpray produced a stability as electrospray at wide range of flow rate.

★MonoSpray leaded to higher column efficiency and sensitivity in bio-analyses such as peptide mixture, because of its minimization dead volume that influenced the separation efficiency of a nano-scaled analytical system.

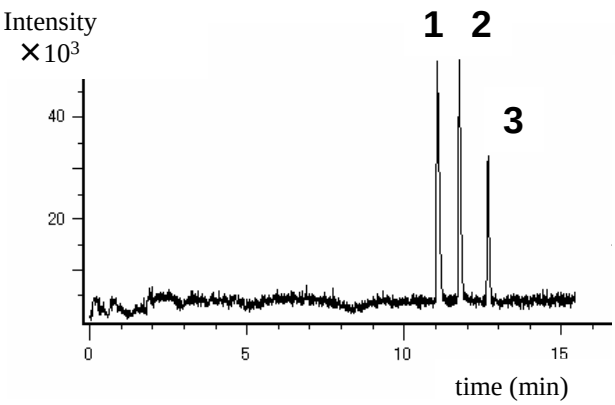


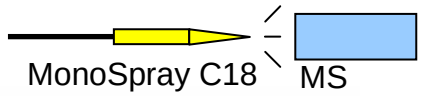
	Column diameter	Tip diameter	Bed length	chemical treatment
MonoSpray 100-50	100um	5um	50mm	–
MonoSpray 50-50	100um	3um	50mm	–
MonoSpray C18 100-50	100um	5um	50mm	C18
MonoSpray C18 50-50	100um	3um	50mm	C18

MonoSpray 100-50 **(0.1mm i.d., 5μm tip i.d.) was applied to the continuous infusion of reserpine. The spectra of reserpine (M+H M/Z 609) was investigated under various conditions.MonoSpray was enable to be used at wide-range flow rate.**



MonoSpray C18_100-50 **was applied to pre-concentration LC/MS analysis for peptides mixture.**





Eluent: A, H_2O(0.1% HCOOH); B, CH_3CN(0.1% HCOOH)

A/B=90/10-(20min)-50/50-(30mn)-50/50

Flow rate:1.0 μl/min

Detection: Accu TOF (JMS-T-100-LC, JEOL)

Sample: 1:Bradykinin

2:Angiotensin II

3:Angiotensin I

“ Based on monolithic technology, Merck KGaA, Darmstadt, Germany ”

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