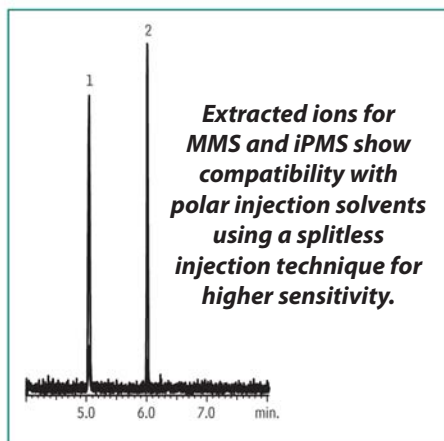
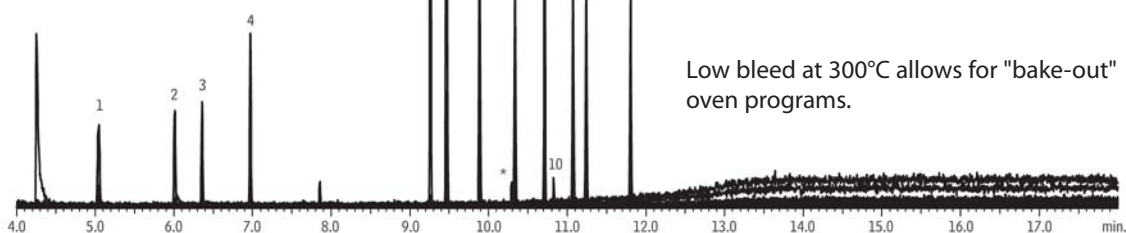


## Mesylate, Besylate, and Tosylate Genotoxic Impurities on Rxi®-624Sil MS (extracted ion chromatograms)



Peaks	RT (min.)	Ions Monitored (m/z)
1. Methyl methanesulfonate (MMS)	4.253	79, 80, 95
2. Isopropyl methanesulfonate (iPMS)	5.043	59, 79, 123
3. Diethyl sulfate (DES)	6.010	111, 125, 139
4. di-isopropyl sulfate (DPS)	6.357	45, 87, 167
5. dibutyl sulfate (DBS)	9.260	29, 41, 56
6. Methyl benzenesulfonate (MBS)	9.463	77, 141, 172
7. Ethyl benzenesulfonate (EBS)	9.883	77, 141, 186
8. Methyl toluenesulfonate (MTS)	10.337	91, 155, 186
9. Ethyl toluenesulfonate (ETS)	10.713	91, 155, 200
10. <i>n</i> -propyl toluenesulfonate (nPTS)	10.827	91, 155, 172
11. <i>n</i> -butyl benzenesulfonate (nBBS)	11.07	77, 141, 159
12. isopropyl <i>p</i> -toluenesulfonate (iPTS)	11.240	91, 155, 172
13. <i>p</i> -toluenesulfonic acid <i>n</i> -butyl ester (nBTS)	11.823	91, 155, 173

\* Ortho isomers of ETS.



GC\_PH1165

<b>Column</b>	Rxi®-624Sil MS, 20 m, 0.18 mm ID, 1.00 µm (cat.# 13865)
<b>Sample</b>	
Diluent:	90:10 acetonitrile:water
Conc.:	500 ng/mL
<b>Injection</b>	
Inj. Vol.:	1 µL splitless (hold 0.5 min.)
Liner:	3.5mm Single Gooseneck Liner with wool placed 3cm from top (middle) (cat.# 22286)
Inj. Temp.:	220 °C
Purge Flow:	3 mL/min.
<b>Oven</b>	
Oven Temp.:	80 °C (hold 2 min.) to 300 °C at 20 °C/min. (hold 5 min.)
<b>Carrier Gas</b>	He, constant flow
Linear Velocity:	45 cm/sec.
<b>Detector</b>	MS
Mode:	SIM
Transfer Line	
Temp.:	200 °C
Analyzer Type:	Quadrupole
Source Temp.:	280 °C
Solvent Delay	
Time:	4 min.
Ionization	
Mode:	EI
<b>Instrument</b>	Shimadzu 2010 GC & QP2010+ MS
<b>Acknowledgement</b>	In collaboration with Merck and Company