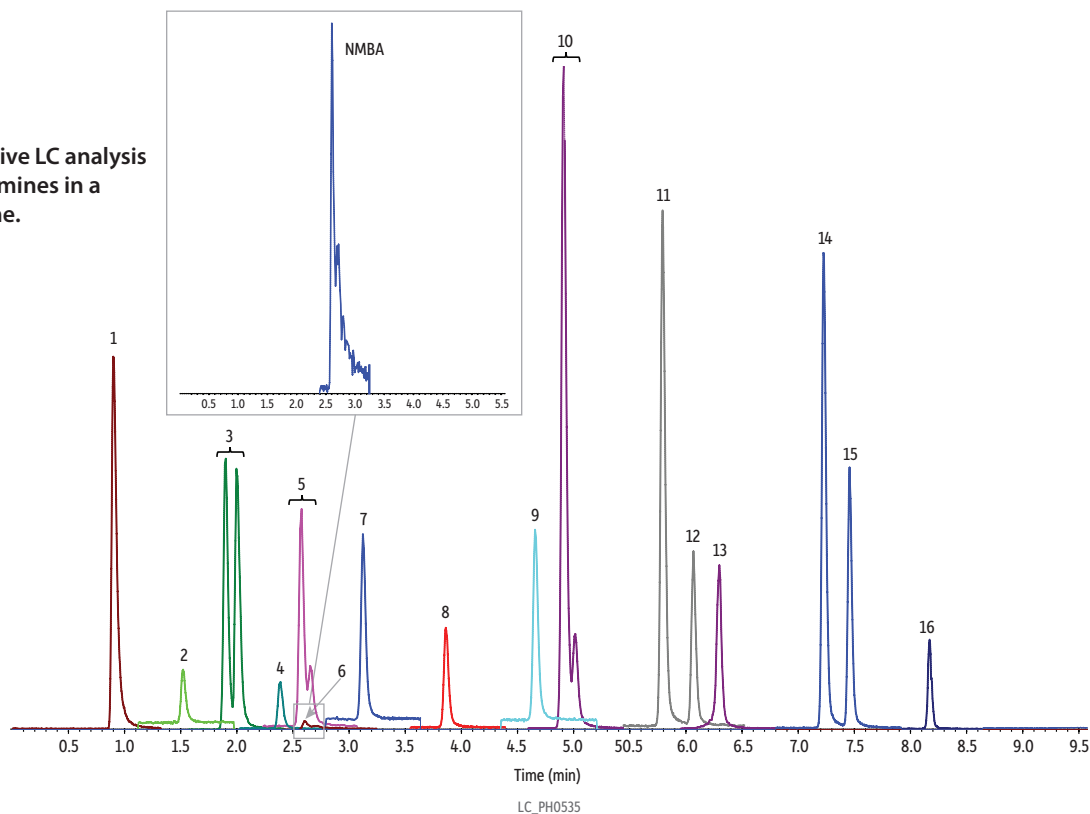


## Nitrosamines on Raptor Biphenyl

- Comprehensive LC analysis of 16 nitrosamines in a short run time.



Peaks	Retention Time (min)	Conc. (ng/mL)	Precursor Ion	Product Ion
1. N-Nitrosodiethanolamine (NDELA)	0.90	10	135.1	74.0
2. N-Nitrosodimethylamine (NDMA)	1.52	10	75.1	58.0
3. N-Nitrosodiisobutylamine (NDIPLA)	1.90	10	163.0	88.0
4. N-Nitrosomorpholine (NMOR)	2.38	10	117.1	45.2
5. N-Nitrosomethylethylamine (NMEA)	2.57	10	89.1	61.0
6. N-Nitroso-N-methyl-4-aminobutyric acid (NMBA)	2.61	10	147.1	117.0
7. N-Nitrosopyrrolidine (NPYR)	3.12	10	101.1	55.1
8. N-Nitrosodiethylamine (NDEA)	3.86	10	103.1	75.0
9. N-Nitrosopiperidine (NPIP)	4.66	10	115.1	69.0
10. N-Nitrosoethylisopropylamine (NEIPA)	4.91	10	117.1	75.0
11. N-Nitrosodiisopropylamine (NDIPA)	5.79	10	131.1	43.0
12. N-Nitrosodipropylamine (NDPA)	6.07	10	131.1	43.0
13. N-Nitrosomethylphenylamine (NMPPA)	6.30	10	137.0	65.9
14. N-Nitrosodiisobutylamine (NDIBA)	7.23	10	159.1	57.1
15. N-Nitrosodibutylamine (NDBA)	7.46	10	159.1	57.1
16. N-Nitrosodiphenylamine (NDPPHA)	8.17	10	199.1	169.0

**Column** Raptor Biphenyl (cat.# 9309A12)  
**Dimensions:** 100 mm x 2.1 mm ID  
**Particle Size:** 2.7 µm  
**Pore Size:** 90 Å  
**Temp.:** 40 °C  
**Standard/Sample** Nitrosamine calibration mix, Method 521 (cat.# 31898)  
 N-Nitrosodiphenylamine (cat.# 31429)  
**Diluent:** Water  
**Conc.:** 10 ng/mL  
**Inj. Vol.:** 5 µL  
**Mobile Phase**  
 A: Water, 0.1% formic acid  
 B: Methanol, 0.1% formic acid

Time (min)	Flow (mL/min)	%A	%B
0.00	0.4	95	5
9.00	0.4	5	95
9.01	0.4	95	5
11.00	0.4	95	5

**Detector** MS/MS  
**Ion Source:** APCI  
**Ion Mode:** APCI+  
**Mode:** MRM  
**Instrument** UHPLC

**Sample Preparation** Standard solutions were prepared in 2 mL, screw-thread amber vials (cat.# 21143) and capped with 9 mm, short-cap, screw-vial closures (cat.# 24498).