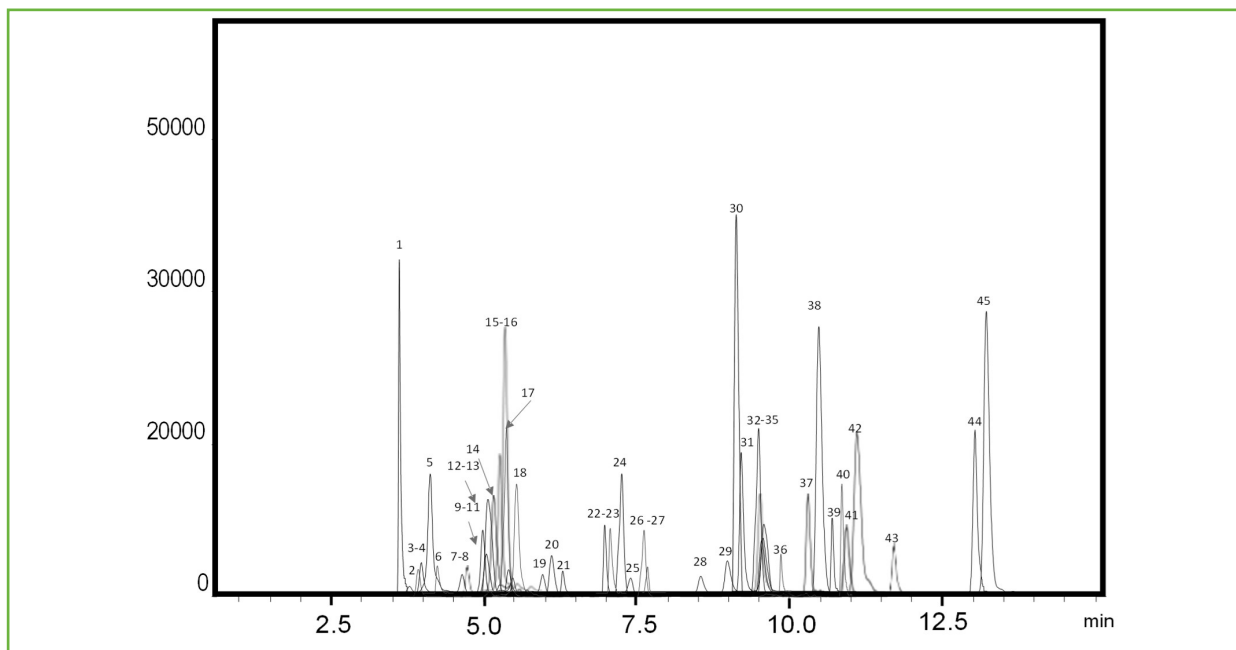




LC-MS Analysis of Veterinary Drugs using HALO® 1.5 C18



TEST CONDITIONS:

Analytical Column: HALO 90 Å C18, 2.7 μm, 1.5 x 100 mm

Part Number: 9281X-602

Tubing: AMT MarvelXACT™ PEEKsil™ 50 μm ID x 350 mm, 685 nL

Part Number: PS7050350

Mobile Phase A: Water, 0.1 % Formic Acid

Mobile Phase B: ACN, 0.1% Formic Acid

| Gradient | Time | %B |
|----------|-------|------|
| | 0 | 10 |
| | 14 | 100 |
| | 16 | 100 |
| | 16.10 | 10 |
| | 19.0 | stop |

Flow Rate: 0.2 mL/min

Pressure: 255 bar

Temperature: 35 °C

Injection Volume: 2.0 μL

Sample Solvent: 50/50/ MeOH/H₂O

Detection: +ESI MS/MS

LC System: Shimadzu Nexera X2

ESI LCMS system: Shimadzu LCMS-8040

MS Conditions:

ESI +

Spray Voltage: 3.0 kV

Nebulizing gas: 2 L/min

Drying gas: 15 L/min

DL temp: 250 °C

Heat Block: 400 °C

Veterinary drugs are a complex group of substances that can be differentiated into different chemical classes and therapeutic areas. These compounds can further be differentiated based on their classifications, such as macrolides, quinolones, sulfonamides, benzimidazoles, tricyclines, and NSAIDs. Here we present the HALO® 1.5 C18 for the separation and identification of a complex mix of veterinary drugs, including macrolides, quinolones, sulfonamides, benzimidazoles, tricyclines, NSAIDs and 4 dye species which have also been used for therapeutic purposes in veterinary medicine. The increased sensitivity and solvent savings offered by the HALO® 1.5 C18, provide the ultimate utility for complex sample analysis.



| Peak id | Drug | Transition | Retention Time | Classification | Peak id | Drug | Transition | Retention Time | Classification |
|---------|------------------------|-------------------|----------------|----------------|---------|-----------------------|-------------------|----------------|----------------|
| 1 | Ciprofloxacin | 332.1000>314.1000 | 3.055 | Quinolone | 24 | Albendazole Sulfoxide | 282.1000>208.0000 | 7.137 | Benzimidazole |
| 2 | Sulfathiazole | 256.0000>92.0000 | 3.492 | Sulfonamide | 25 | Albendazole Sulfone | 298.0000>159.0000 | 7.168 | Benzimidazole |
| 3 | Lincomycin | 407.2000>126.1000 | 3.805 | Lincosamide | 26 | Sulfaquinoxaline | 301.1000>156.0000 | 7.526 | Sulfonamide |
| 4 | Sulfapyridine | 250.1000>184.0000 | 3.811 | Sulfonamide | 27 | Phenylbutazone | 309.1000>120.1000 | 7.605 | NSAID |
| 5 | Albendazole-Zamino | 240.0000>133.1000 | 4.053 | Benzimidazole | 28 | Tilmicosin | 435.4000>174.1000 | 8.026 | Macrolide |
| 6 | Trimethoprim | 291.1000>230.0000 | 4.112 | Quinolone | 29 | Flumequin | 262.0000>244.1000 | 9.007 | Quinolone |
| 7 | Ormetoprim | 275.1000>123.1000 | 4.699 | Quinolone | 30 | Nalidixic Acid | 233.1000>215.1000 | 9.041 | Quinolone |
| 8 | Tetracycline | 445.1000>410.1000 | 4.715 | Tetracycline | 31 | Oxolinic Acid | 261.9000>244.0000 | 9.145 | Quinolone |
| 9 | Enrofloxacin | 360.1000>342.1000 | 5.001 | Quinolones | 32 | Kitasamycin | 772.3000>174.2000 | 9.514 | Macrolide |
| 10 | Danofloxacin | 358.1000>340.0000 | 5.013 | Quinolones | 33 | Tylosin | 916.5000>174.1000 | 9.517 | Macrolide |
| 11 | Sulfaclozine | 285.0000>156.0000 | 5.015 | Sulfonamide | 34 | Florfenicol Amine | 248.0000>230.1000 | 9.476 | Amphenicol |
| 12 | Sulfachloropyridazine | 285.0100>92.0000 | 5.029 | Sulfonamide | 35 | Erythromycin A | 734.4000>576.4000 | 9.545 | Macrolide |
| 13 | Sulfamerazine | 265.0000>108.0000 | 5.072 | Sulfonamide | 36 | Malachite Green | 329.2000>313.2000 | 9.814 | Dye |
| 14 | Diclofenac | 296.0000>214.0000 | 5.106 | NSAID | 37 | Albendazole | 266.0000>234.0000 | 10.254 | Benzimidazole |
| 15 | Difloxacin | 400.1000>382.1000 | 5.422 | Quinolone | 38 | Cloxacillin | 436.0000>277.0000 | 10.455 | Macrolide |
| 16 | Amoxicillin | 366.0000>113.9000 | 5.496 | Beta-lactam | 39 | Dicloxacillin | 470.0000>160.0000 | 10.505 | Macrolide |
| 17 | Chlortetracycline | 479.1000>444.0000 | 5.508 | Tetracycline | 40 | Leucocrystal Violet | 374.2000>238.2000 | 10.785 | Dye |
| 18 | Sulfadoxine | 311.0000>92.0000 | 5.761 | Sulfonamide | 41 | Crystal Violet | 372.2000>356.2000 | 10.875 | Dye |
| 19 | Sulfaethoxy-pyridazine | 295.0000>140.1000 | 6.023 | Sulfonamide | 42 | Brilliant Green | 385.2000>341.1000 | 11.425 | Dye |
| 20 | Penicillin G | 335.0000>159.9000 | 6.125 | Beta-lactam | 43 | Dapsone | 249.0000>156.0000 | 11.535 | Sulfone |
| 21 | Neospiramycin | 350.2000>174.2000 | 6.357 | Macrolide | 44 | Carprofen | 274.0000>228.1000 | 13.025 | NSAID |
| 22 | Spiramycin | 422.4000>174.2000 | 7.020 | Macrolide | 45 | Ivermectin | 897.6000>240.1000 | 13.565 | Macrolide |
| 23 | Sulfadimethoxine | 311.1000>108.0000 | 7.026 | Sulfonamide | | | | | |



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