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Simultaneous analysis of spectinomycin, halquinol, zilpaterol, and melamine in feedingstuffs by ion-pair liquid chromatography-tandem mass spectrometry

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Highlights

- An ion-pair LC-MS/MS method for polar vet drug residues was proposed.
- Different LC approaches were assessed.
- Method validation was in accordance to Commission Decision 657/2002/CE.
- Method applicability showed its fit-for-purpose.
- Zilpaterol and halquinol were quantitated in four of 20 samples.

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ABSTRACT

A method for the simultaneous analysis of veterinary drug residues (spectinomycin, halquinol, and zilpaterol) and contaminants (melamine) in feedingstuffs by liquid chromatography-tandem mass spectrometry was developed. Method performance for all analytes was evaluated by reversed-phase liquid chromatography, reversed-phase with altered chemical equilibrium, and hydrophilic interaction (HILIC) as chromatographic modes. Validation was in accordance to Commission Decision 657/2002/CE, by considering the best chromatographic approach. Ion-pair liquid chromatography with C_{18} as stationary phase led to