Simultaneous Detection of Androgen and Estrogen Abuse in Breeding Animals by Gas Chromatography-Mass Spectrometry/Combustion/Isotope Ratio Mass Spectrometry (GC-MS/C/IRMS) Evaluated against Alternative Methods

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Supporting information

Figure S1. Analytical protocol for the extraction and purification of 17α-estradiol (αE2), 17α-testosterone (αT), etiocholanolone (Etio) and the endogenous reference compound 5-androstene-3β,17α-diol (AEdiol), prior to GC-MS/C/IRMS analysis. LLE stands for liquid-liquid extraction.

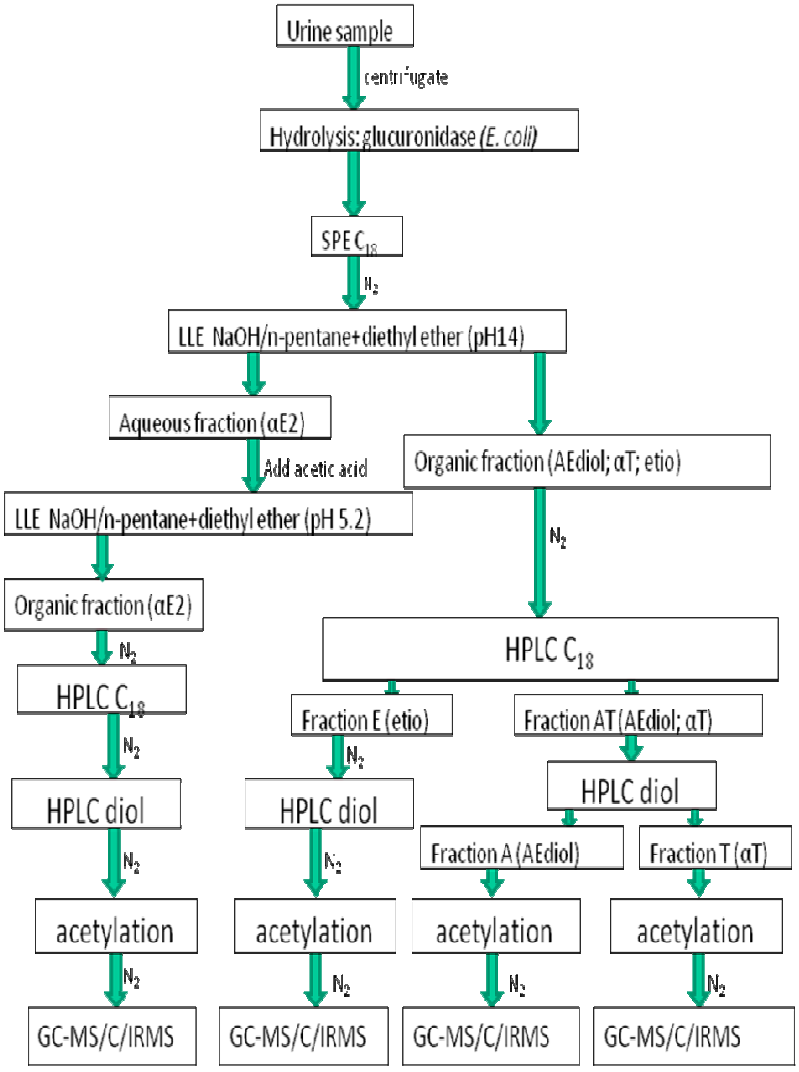

Figure S2. Analytical protocol for the sample preparation prior to HPLC-MS/MS analysis. LLE stands for liquid-liquid extraction.

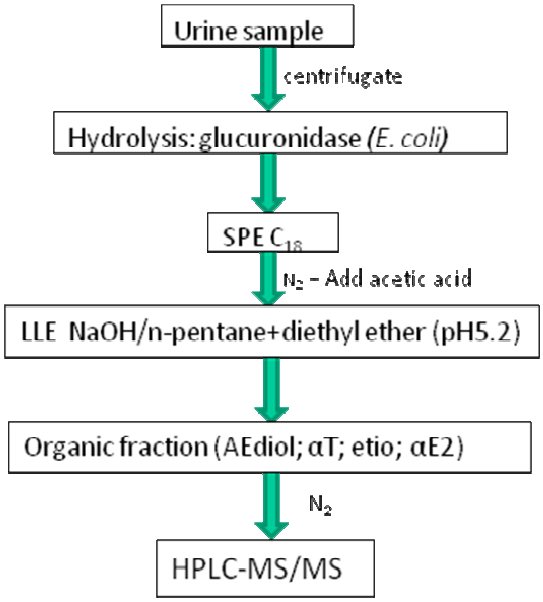

Figure S3. $\Delta^{13}C_{VPDB}$ values (expressed in ‰) of 17α-estradiol (αE2), 17α-testosterone (αT) and etiocholanolone (Etio), with 5-androstene-3β,17α-diol as endogenous reference compound, in the urine samples from a bull (above) and a heifer (below) after treatment with 17β-testosterone propionate and 17β-estradiol benzoate.