Supplementary material

Determining tolfenpyrad in oat samples using solid-liquid extraction with low-temperature purification and analysis by gas chromatography coupled to mass spectrometry

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Table S1: Location and type of actual samples analyzed

Samples	Type	Location	Coordinates
Sample 01	In bulk	Montes Claros/Brazil	16° 44′ 06″ S, 43° 51′ 43″ W
Sample 02	In bulk	Montes Claros/Brazil	16° 44′ 06″ S, 43° 51′ 43″ W
Sample 03	In bulk	Montes Claros/Brazil	16° 44′ 06″ S, 43° 51′ 43″ W
Sample 04	In bulk	Montes Claros/Brazil	16° 44′ 06″ S, 43° 51′ 43″ W
Sample 05	Brand	Curitiba/Brazil	25° 25′ 47″ S, 49° 16′ 19″ W
Sample 06	Brand	Taiobeiras/Brazil	15° 48′ 13″ S, 42° 14′ 30″ W
Sample 07	Brand	Mauá da Serra/Brazil	23° 54′ 26″ S, 51° 11′ 29″ W
Sample 08	Brand	Lagoa Vermelha/Brazil	28° 12′ 32″ S, 51° 31′ 33″ W
Sample 09	Brand	Coronel Bicaco/Brazil	27° 42′ 55″ S, 53° 42′ 05″ W
Sample 10	Brand	Jaraguá do Sul/Brazil	26° 29′ 09″ S, 49° 04′ 01″ W
Sample 11	Brand	Santo André/Brazil	23° 39′ 60″ S, 46° 31′ 56″ W
Sample 12	Brand	Barueri/Brazil	23° 30′ 41″ S, 46° 52′ 36″ W
Sample 13	Brand	Mauá da Serra/Brazil	23° 54′ 26″ S, 51° 11′ 29″ W
Sample 14	Brand	São Paulo – Brazil	23° 33′ 01″ S, 46° 38′ 02″ W
Sample 15	Brand	Mauá da Serra/Brazil	23° 54′ 26″ S, 51° 11′ 29″ W
Sample 16	Brand	São José do Rio Preto/Brazil	20° 49′ 13″ S, 49° 22′ 47″ W
Sample 17	Brand	Barueri/Brazil	23° 30′ 41″ S, 46° 52′ 36″ W
Sample 18	Brand	Jundiaí/Brazil	23° 11′ 09″ S, 46° 53′ 02″ W
Sample 19	Brand	Campina Grande do Sul - Brazil	25° 18′ 21″ S, 49° 03′ 18″ W

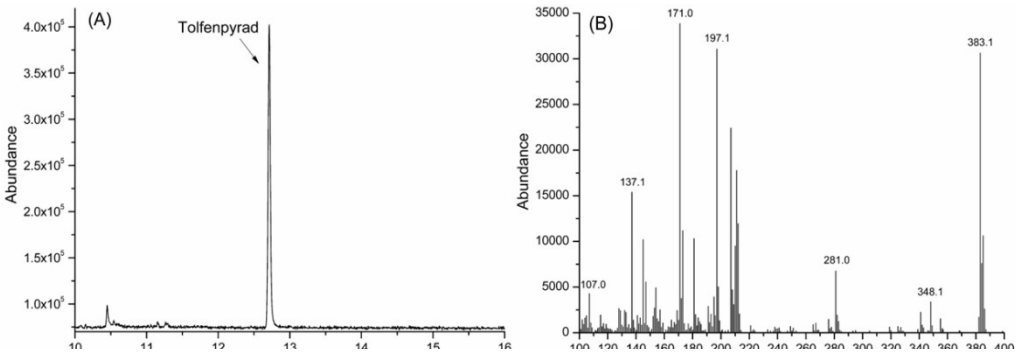

Figure S1: Chromatogram of the tolfenpirad standard at a concentration of 5 mg L-1 in SCAN mode (A), mass spectrum of tolfenpirad obtained from GC-MS (B).

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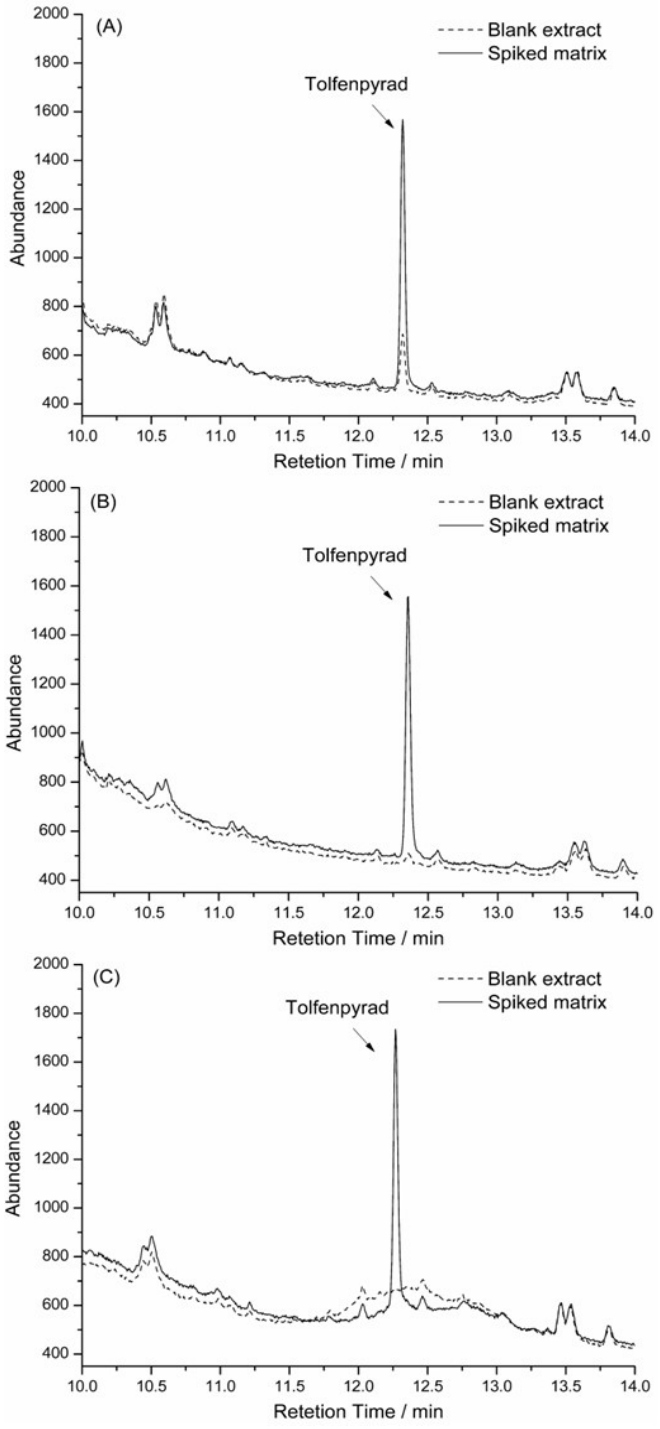

Figure S2: Chromatograms of the spiked matrix extract with tolfenpyrad at a concentration of 90 µg Kg^{-1} obtained in SIM mode with different temperature settings: (A) 100 °C at 35 °C min^{-1} up to 300 °C and held for 6 min, (B) 100 °C at 30 °C min^{-1} up to 300 °C and held for 6 min and (C) 100 °C at 25 °C min^{-1} up to 300 °C and held for 6 min.

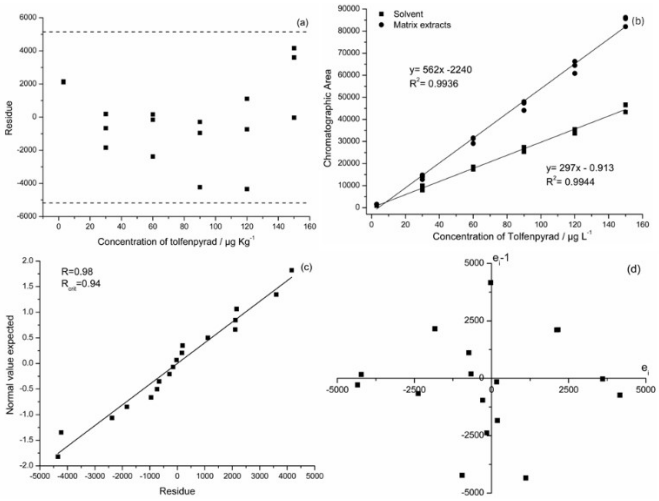

Figure S3: Statistical tests to assess linearity. (a) Jacknife plot to identify extreme values; (b) analytical curve of the matrix extract and the solvent fortified with tolfenpyrad. R^2: coefficient of determination; (c) Ryan-Joiner plot to determine the normality of the residuals, R: correlation coefficient, Rcrit: critical correlation coefficient; (d) Durbin-Watson plot to assess the independence of the residuals.

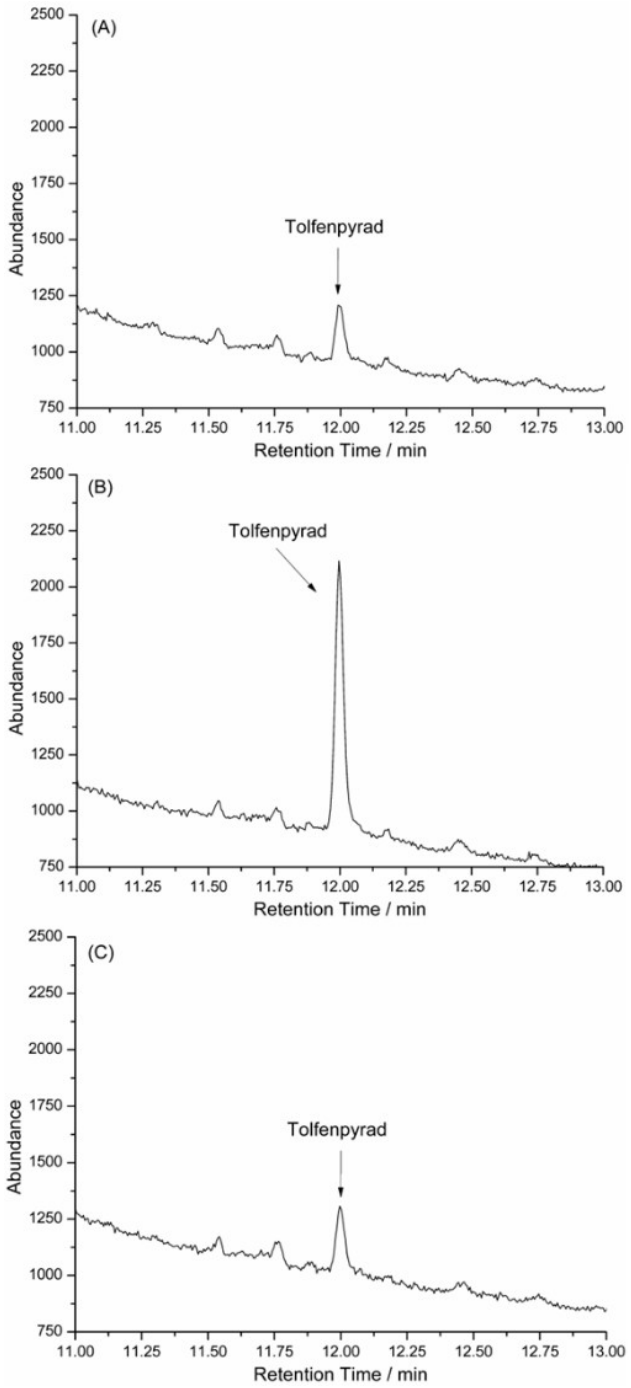

Figure S4: Chromatograms of real samples contaminated with tolfenpyrad at concentrations of: (a) 11 µg Kg^{-1}, (b) 45 µg Kg^{-1} and (c) 12 µg Kg^{-1}.