

**A simple and sensitive LC-MS/MS method for determination and
quantification of potential genotoxic impurities in ceritinib active
pharmaceutical ingredient**

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Supporting information

Chromatogram and MS/MS spectra of impurities **PGI 1 - PGI 4** at different collision energies. MS source parameters. Data obtained in method repeatability study.

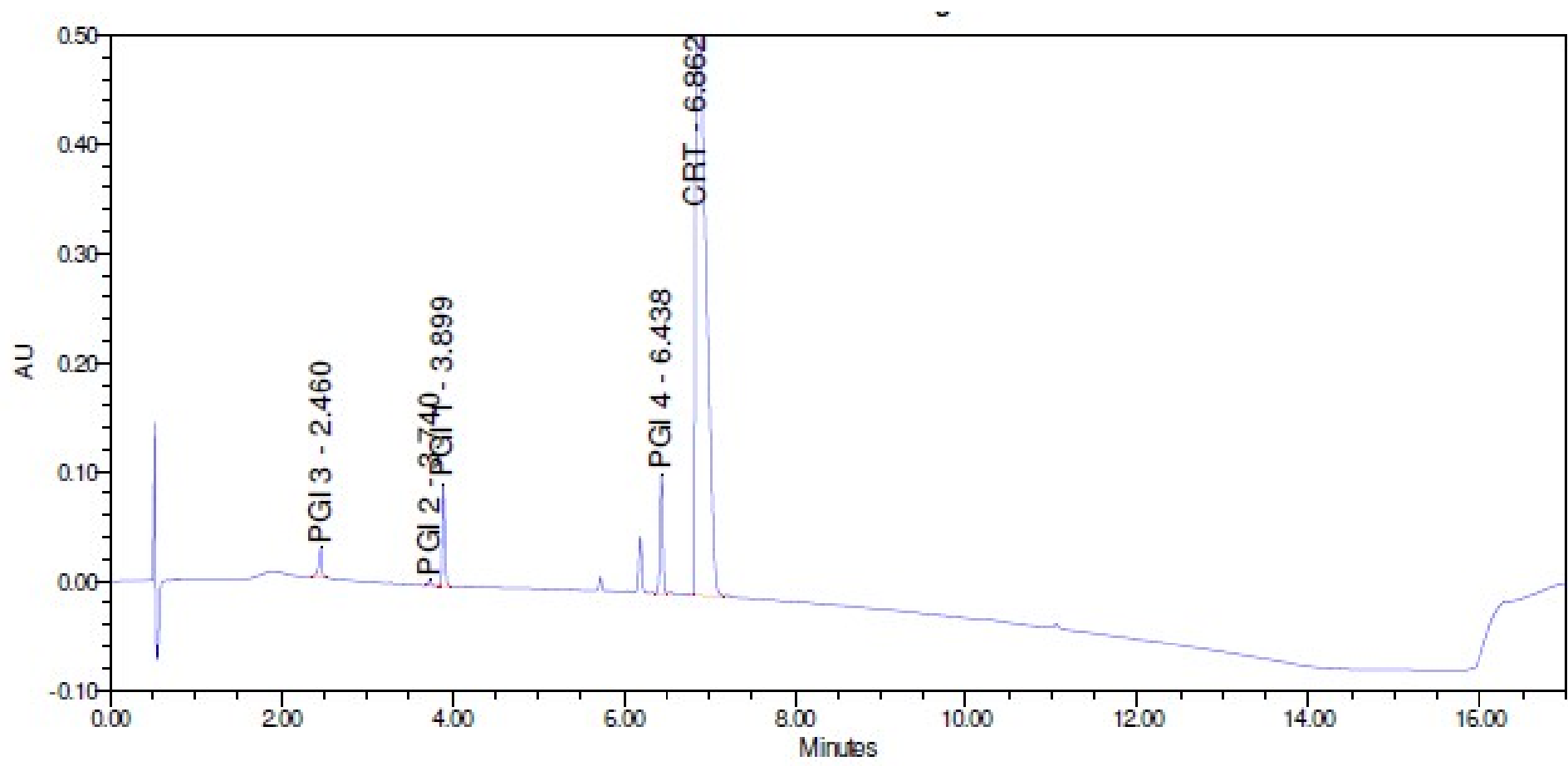


Figure S1. Chromatogram of ceritinib and PGI1-PGI4 on YMC-Triart C18 column

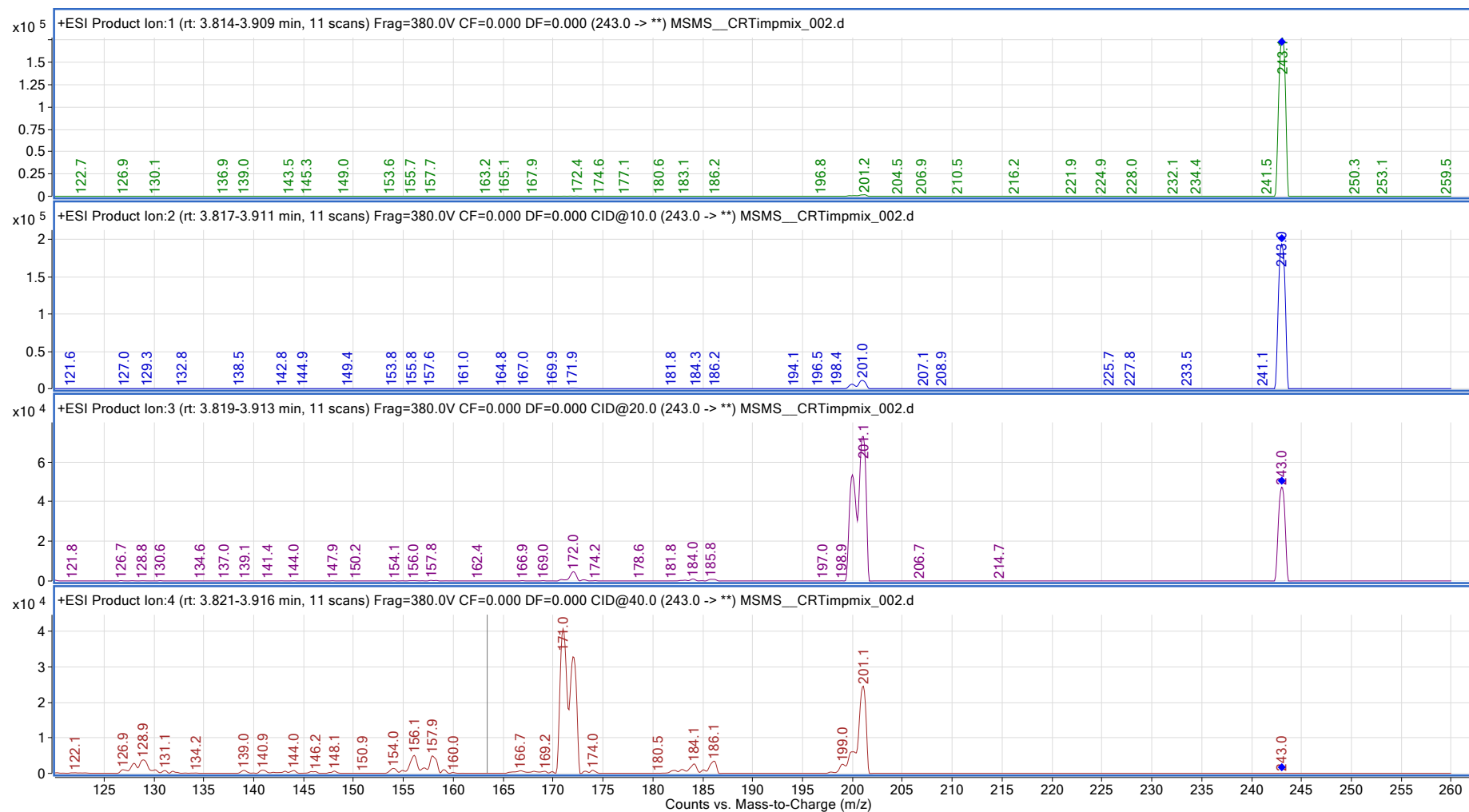


Figure S2. MS/MS spectra of PGI 1 at different collision energies (0, 10, 20 and 40 V)



Figure S3. MS/MS spectra of PGI 2 at different collision energies (0, 10, 20 and 40 V)

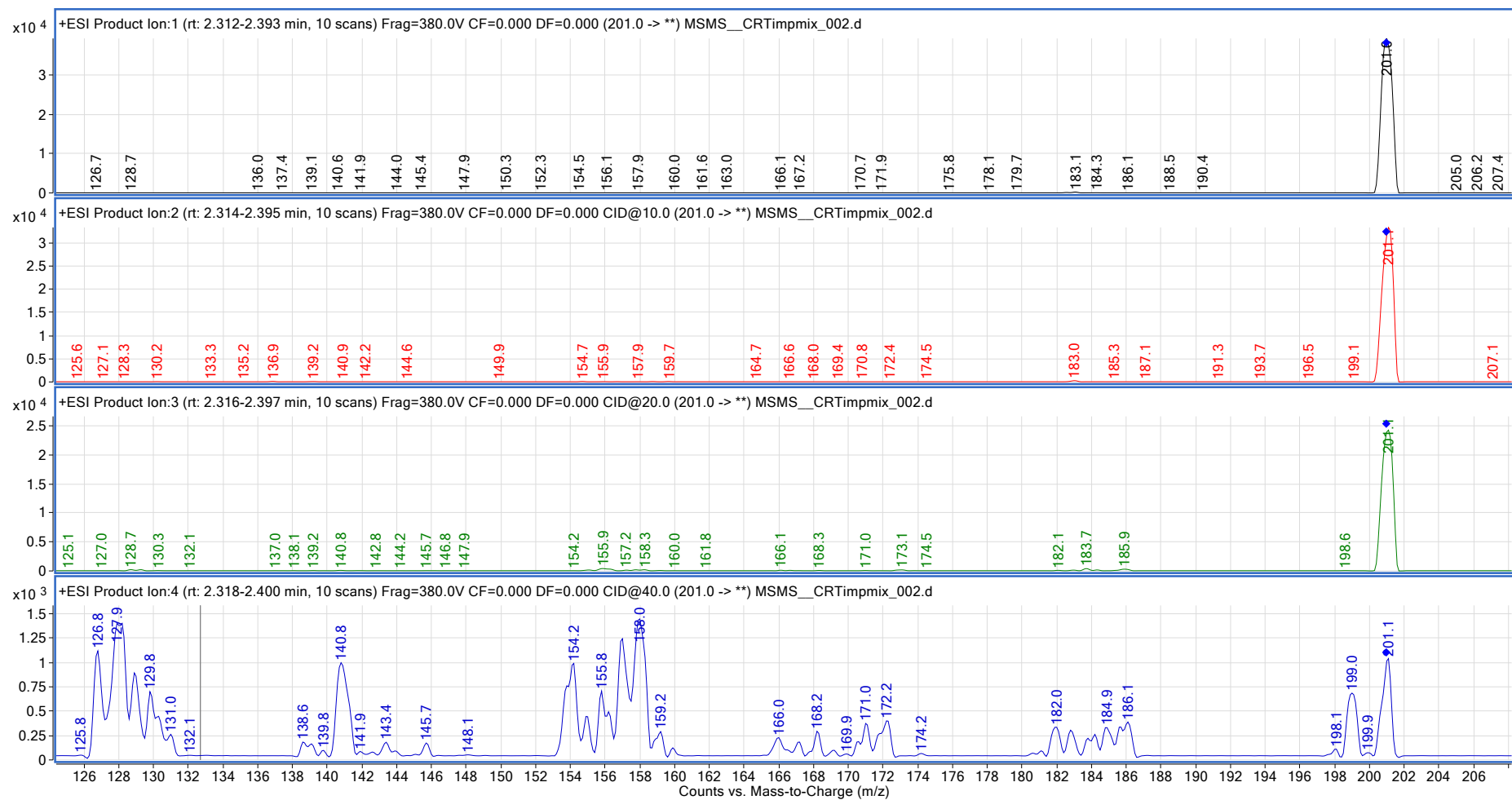


Figure S4. MS/MS spectra of **PGI 3** at different collision energies (0, 10, 20 and 40 V)

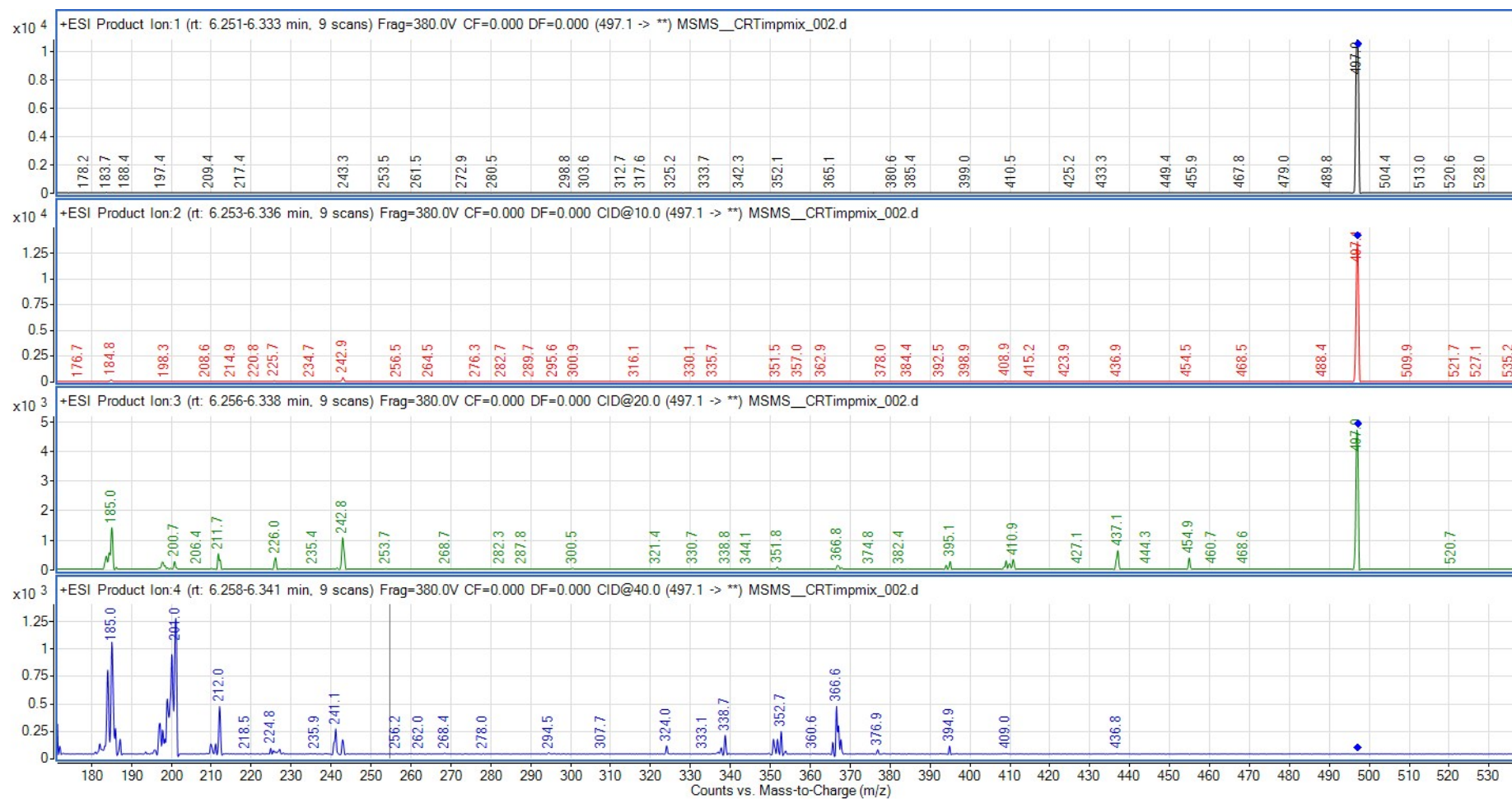


Figure S5. MS/MS spectra of PGI 4 at different collision energies (0, 10, 20 and 40 V)

Table S1. MS source parameters

Parameter	Value (+)
Gas temperature (°C)	100
Gas flow (l/min)	15
Nebulizer (psi)	15
Sheath Gas Heater	125
Sheath gas flow	3
Capillary (V)	3000
V Charging	1500

Table S2. Data obtained in method repeatability study.

	Injection #	PGI 1	PGI 2	PGI 3	PGI 4
Area (at 0.5 ppm)	1	4648	248	556	212
	2	4666	231	539	186
	3	4536	257	587	193
	RSD %	1.5	5.4	4.3	6.8
Area (at 2.0 ppm)	1	13871	823	2897	872
	2	14102	914	2854	897
	3	15618	924	2802	854
	RSD %	6.5	6.3	1.7	2.5
Area (at 5.0 ppm)	1	379206	23478	64757	21035
	2	381251	23888	65365	21492
	3	381164	23745	65003	21354
	RSD %	0.3	0.9	0.5	1.1