A RP-UV-HPLC Method for the Dual Detection of Fluconazole and Clobetasol Propionate and Application to a Model Dual Drug Delivery Hydrogel.

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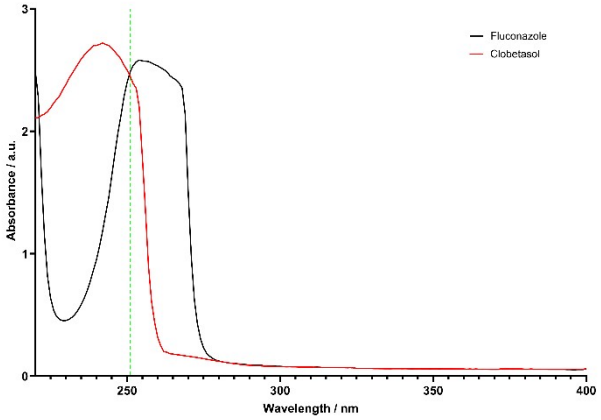
Supplementary Information



S1) Absorbance spectra for FLU and CP in a 75: 25 MeOH: dH2O buffer where the green dotted line represents the overlapping of the two spectra at 250 nm.

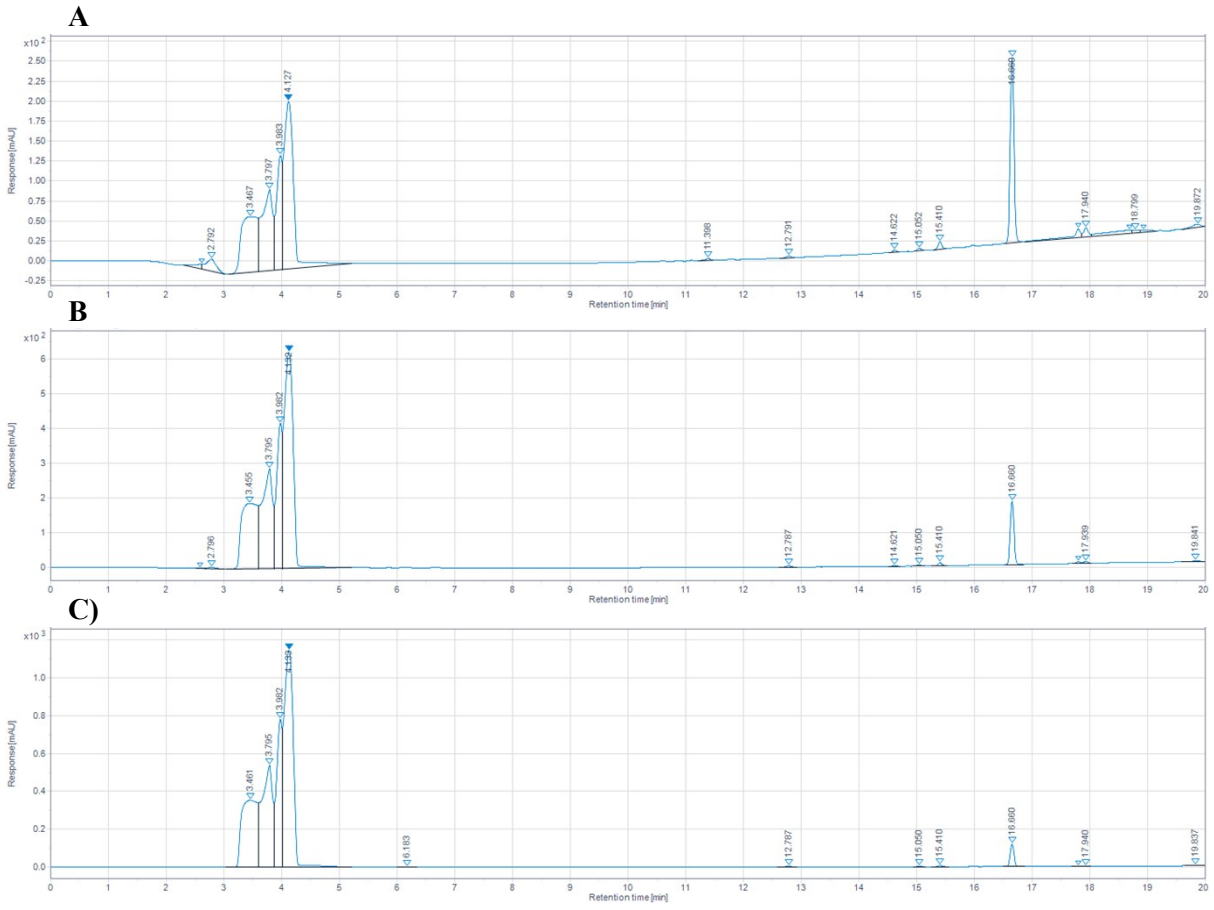
FLU								
Chromatogram	**Wavelength**	**Chromatographic Conditions**			**Resolution**	**Capacity Factor**	**Selectivity**	**Asymmetry**
		0-5 mins	**5-6 mins**	**5-15 mins**				
S4A	244	35:65 ACN:dH2O 1 mL.min^{-1}	Ramping to 100:0 ACN:dH2O 1 mL.min^{-1}		0.53 ^{NA}	0.51 ^{NA}	9.96	1.15 $^{\#}$
S4B	250				0.56 ^{NA}	0.51 ^{NA}	9.96	1.07 $^{\#}$
S4C	258				0.56 ^{NA}	0.51 ^{NA}	9.96	1.07 $^{\#}$
S5A	244	35:65 ACN:dH2O 0.8mL.min^{-1}	Ramping to 100:0 ACN:dH2O 1 mL.min^{-1}		0.68 ^{NA}	0.85 ^{NA}	5.82	1.41 $^{\#}$
S5B	250				0.69 ^{NA}	0.85 ^{NA}	5.82	0.79
S5C	258				0.69 ^{NA}	0.85 ^{NA}	5.82	0.78
S6A	244	35:65 ACN:dH2O 0.6mL.min^{-1}	Ramping to 1 mL.min^{-1}	Ramping to 100:0 ACN:dH2O	3.10	1.47	3.59	0.79
S6B	250				2.41	1.58	3.35	0.88
S6C	258				1.44 ^{NA}	1.47	3.59	0.78

S2) A table showing the chromatographic performance parameters for the FLU peak during the optimisation of the HPLC method for dual detection, the chromatogram codes correspond to the supplementary information below. ^{NA} indicates values which are not adequate for reliable detection

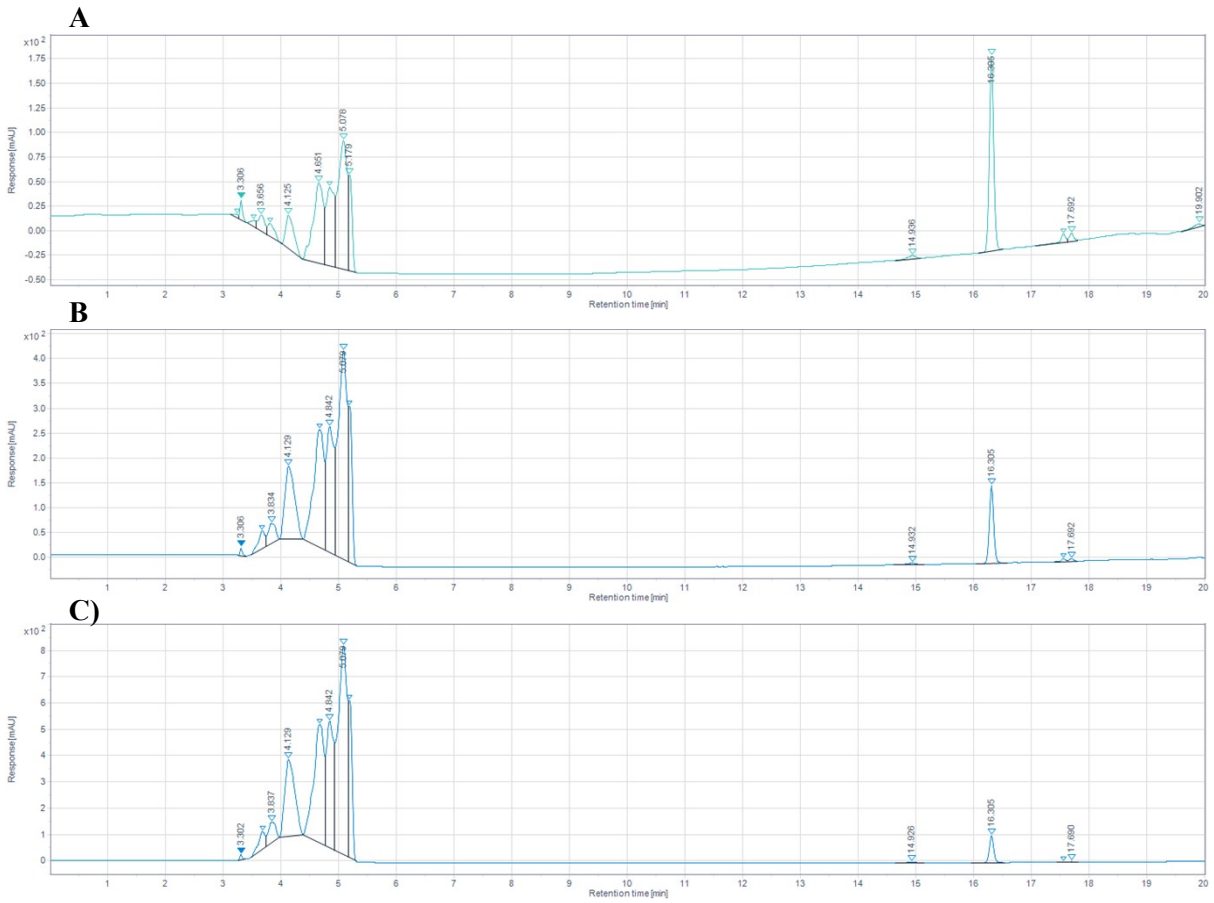
and quantification, and # indicates values which are within an acceptable range but not excellent for this type of analysis.

CP								
Chromatogram	**Wavelength**	**Chromatographic Conditions**			**Resolution**	**Capacity Factor**	**Selectivity**	**Asymmetry**
		0-5 mins	**5-6 mins**	**5-15 mins**				
S4A	244	35:65 ACN:dH2O 1 mL.min^{-1}	Ramping to 100:0 ACN:dH2O 1 mL.min^{-1}		68.79	5.08	9.96	1.03
S4B	250				54.75	5.08	9.96	1.03
S4C	258				68.12	5.08	9.96	1.03
S5A	244	35:65 ACN:dH2O 0.8mL.min^{-1}	Ramping to 100:0 ACN:dH2O 1 mL.min^{-1}		42.87	4.95	5.82	1.00
S5B	250				41.79	4.95	5.82	1.00
S5C	258				41.79	4.95	5.82	1.00
S6A	244	35:65 ACN:dH2O 0.6mL.min^{-1}	Ramping to 1 mL.min^{-1}	Ramping to 100:0 ACN:dH2O	15.42	5.28	3.59	1.04
S6B	250				56.37	5.28	3.35	1.03
S6C	258				49.54	5.28	3.59	1.03

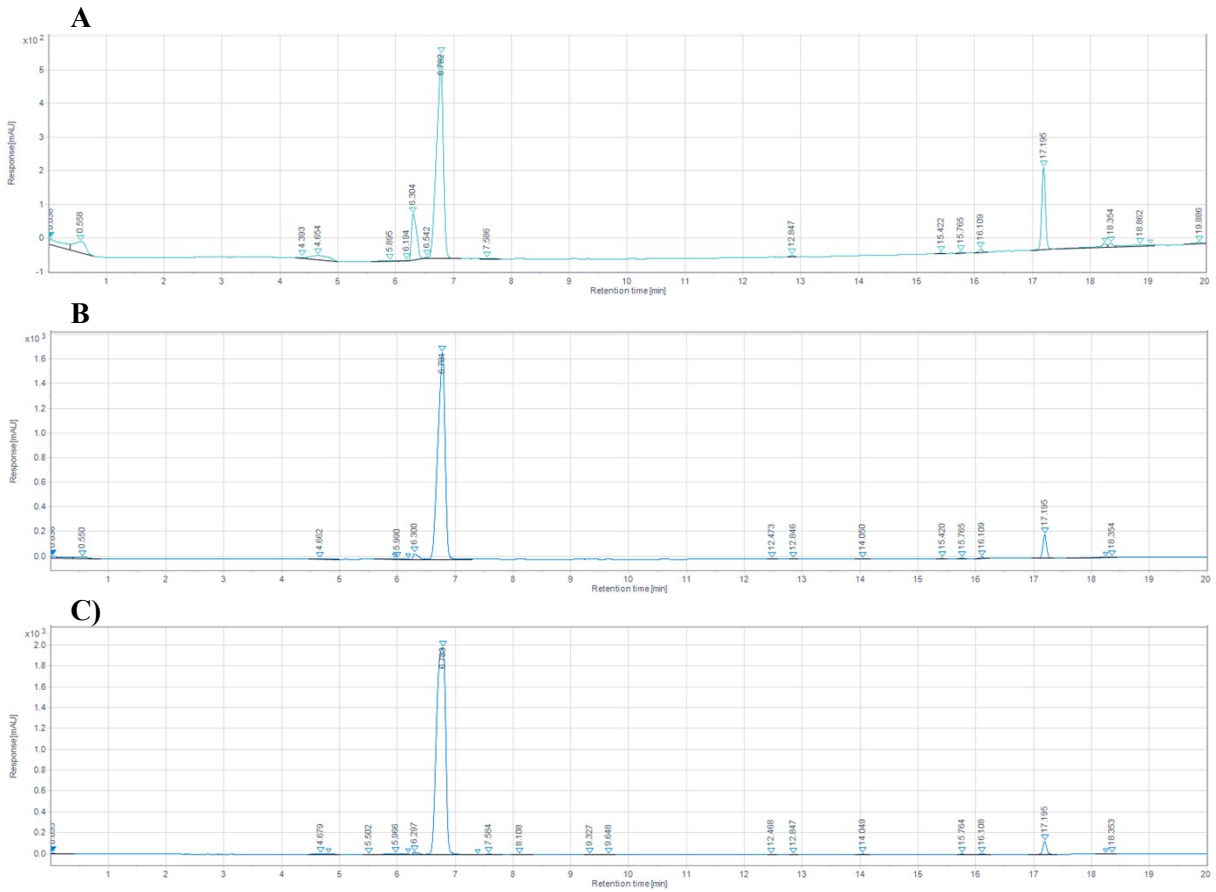
S3) A table showing the chromatographic performance parameters for the CP peak during the optimisation of the HPLC method for dual detection, the chromatogram codes correspond to the supplementary information below.



*S4) Chromatograms obtained using the following elution parameters, a flow rate of 1mL.min^{-1}, 35:65 ACN:dH$_2$O for 5 minutes, followed by a ramping of the mobile phase to 100:0 ACN:dH$_2$O between 0-15 minutes, at wavelengths of **A)** 244 nm, **B)** 250 nm and **C)** 258 nm.*



*S5) Chromatograms obtained using the following elution parameters, a flow rate of 0.8mL.min^{-1}, 35:65 ACN:dH_2O for 5 minutes, followed by a ramping of the mobile phase to 100:0 ACN:dH_2O between 0-15 minutes at a flow rate of 1mL.min^{-1}, at wavelengths of **A)** 244 nm, **B)** 250 nm and **C)** 258 nm.*



*S6) Chromatograms obtained using the following elution parameters, a flow rate of 0.6mL.min^{-1}, 35:65 ACN:dH_2O for 5 minutes, followed by an increase of the flow rate to 1 mL.min^{-1} between 5 and 6 minutes and a ramping of the mobile phase to 100:0 ACN:dH_2O between 0-15 minutes at a flow rate of 1mL.min^{-1}, at wavelengths of **A)** 244 nm, **B)** 250 nm and **C)** 258 nm.*