DEVELOPMENT OF A SINGLE OPTIMIZED METHOD FOR THE HPLC ANALYSIS OF ANGIOTENSIN II RECEPTOR BLOCKER (ARB) ANTAGONISTS.

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Objective 1 - To optimise Assay and Related Substances HPLC methods for irbesartan, losartan and valsartan

Objective 2 - To use the strategy adopted in Objective 1 to develop an Assay Method that resolves the three APIs in a single reverse phase HPLC method

Objective 3 - To transfer the method developed in Objective 2 from HPLC to UPLC

Irbesartan
Strongest base pKa = 4.20
Strongest acid pKa = 7.40
Assay Optimisation
Original Assay Chromatogram
Irbesartan assay optimised chromatogram
Related Substance Optimisation
Original Related Substances Chromatogram
Irbesartan related substances optimisation chromatogram

Valsartan
Strongest base pKa = 4.12
Strongest acid pKa = 7.4
Assay Optimisation
Original Assay Chromatogram for Valsartan
Valsartan Assay optimised chromatogram
Related Substance Optimisation
Original Related Substances Chromatogram for Valsartan
Valsartan related substances optimisation chromatogram

Losartan
Strongest base pKa = 4.12
Strongest acid pKa = 7.4
Assay and Related Substances Optimisation
Original Assay Chromatogram for Losartan
Original Related Substances Chromatogram for Losartan

Related Substance Optimisation
Combined Method Optimisation
Losartan Assay and Related Substances optimisation chromatogram

Method Development

Developed HPLC Assay
Method transferred to UPLC

Obtaining close RRT (Relative Retention times) between the two methods signifies that the geometrical transfer was executed successfully and that the two methods could be used interchangeably and the results compared with each other.