

## Supporting Information

*J. Chem. Metrol.* 15:2 (2021) 152-162

### Quantification of antileukemic drug Dasatinib in human plasma: Application of a sensitive liquid chromatographic method

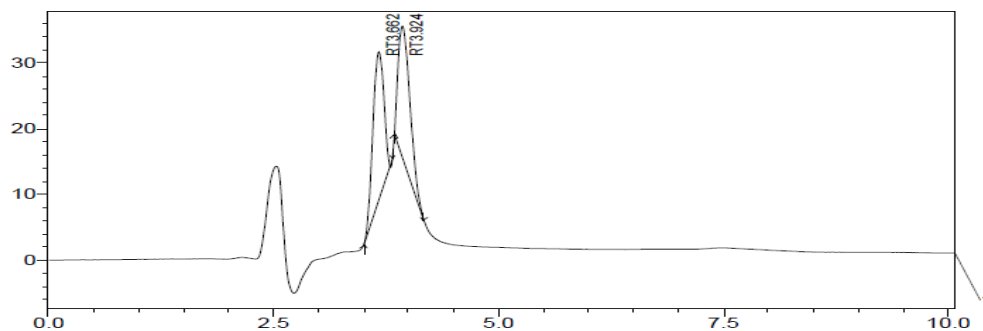
Avani Chokshi <sup>1\*</sup>, Anuradha Gajjar <sup>2</sup>, Pooja Bhanushali <sup>1</sup>  
and Pritesh Desai <sup>4</sup>

*Ramanbhai Patel College of Pharmacy, Charotar University of Science and Technology, CHARUSAT  
Campus, Changa - 388421, Anand, Gujarat, INDIA*

*L M College of Pharmacy, Navrangpura, Ahmedabad 380 009, Gujarat, India*

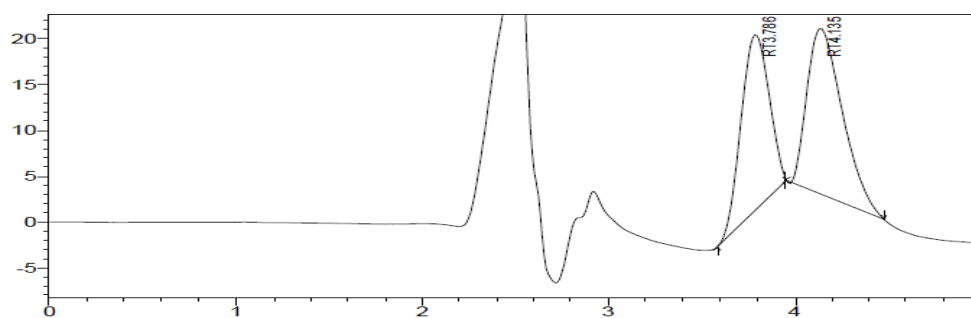
*Department of Analytical Research, PTC-Moraiya, Zydus Cadila Healthcare Limited, NH 8A,  
Moraiya-382213, Gujarat, India*

Table of Contents	Page
<b>Figure S1:</b> Trial 1 HPLC chromatogram	2
<b>Figure S2:</b> Trial 2 HPLC chromatogram	3
<b>Figure S3:</b> Trial 3 HPLC chromatogram	4
<b>Figure S4:</b> Trial 4 HPLC chromatogram	5
<b>Figure S5:</b> Trial 5 HPLC chromatogram	6
<b>Figure S6:</b> Trial 6 HPLC chromatogram	7
<b>Figure S7:</b> Trial 7 HPLC chromatogram	8
<b>Figure S8:</b> Trial 8 HPLC chromatogram	9
<b>Figure S9:</b> Optimized Chromatographic Condition	10
<b>Figure S10:</b> Chromatogram for Blank plasma	11
<b>Figure S11:</b> Chromatogram of Dasatinib	12
<b>Figure S12:</b> Chromatogram of Imatinib (Internal Standard)	13
<b>Figure S13:</b> Calibration curve of Dasatinib	14
<b>Figure S14:</b> Overlay chromatogram at LLOQ	15
<b>Figure S15:</b> Overlay chromatogram at ULOQ	16
<b>Figure S16:</b> : Chemical structure and physicochemical properties of Dasatinib	17



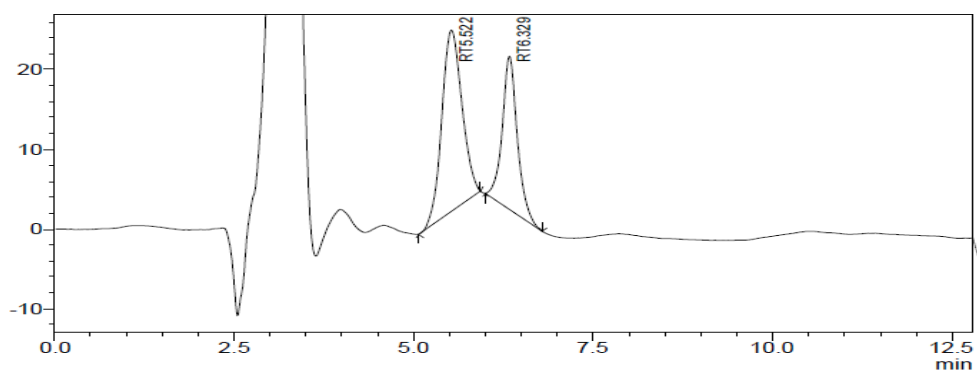
**Figure S1:** Trial 1 HPLC chromatogram

Analyte	Rt (min)	Plates	Tailing	Area	Resolution	Observation
<b>Imatinib</b>	3.66	1542	0.62	194460	—	Merging of peak
<b>Dasatinib</b>	3.92	1742	0.57	180626	—	



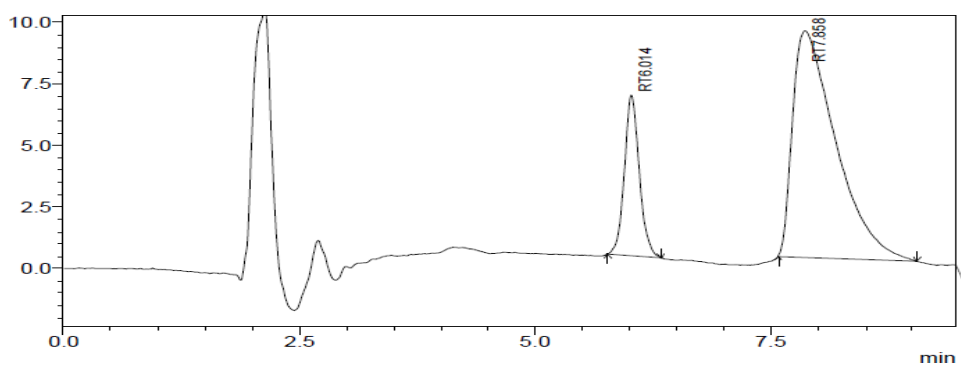
**Figure S2:** Trial 2 HPLC Chromatogram

Analyte	Rt (min)	Plates	Tailing	Area	Resolution	Observation
<b>Imatinib</b>	3.78	1835	1.14	202366	–	Merging of peak
<b>Dasatinib</b>	4.13	1722	1.24	237500	–	



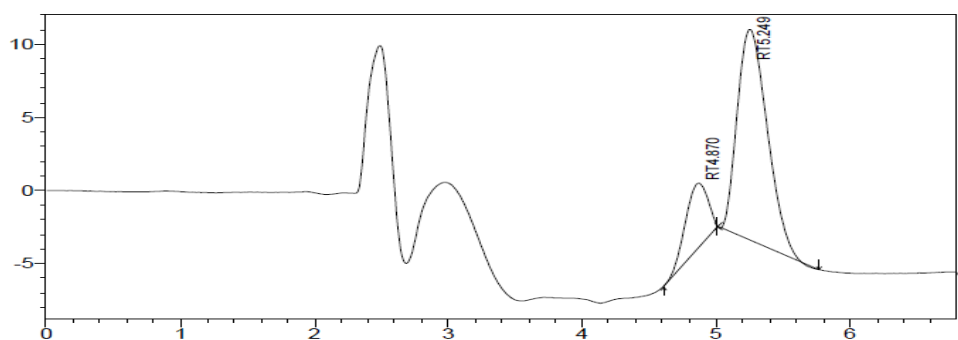
**Figure S3:** Trial 3 HPLC chromatogram

Analyte	Rt (min)	Plates	Tailing	Area	Resolution	Observation
<b>Imatinib</b>	5.52	1865	0.94	449027	—	Merging of peak
<b>Dasatinib</b>	6.32	1948	1.14	280784	1.12	



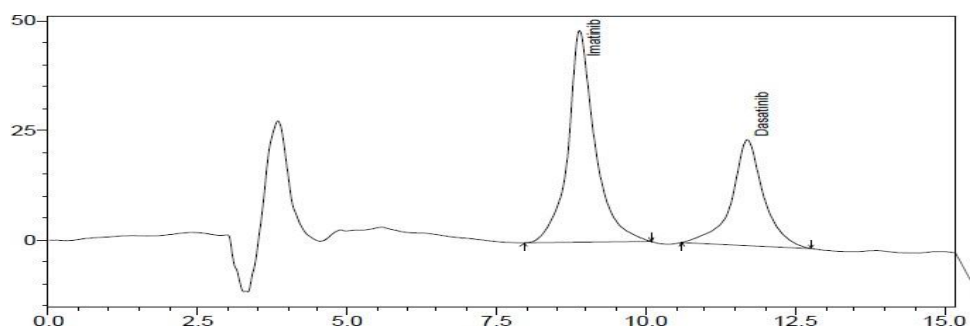
**Figure S4:** Trial 4 HPLC chromatogram

Analyte	Rt (min)	Plates	Tailing	Area	Resolution	Observation
<b>Imatinib</b>	6.01	2015	1.18	71916	—	Asymmetry
<b>Dasatinib</b>	7.85	982	2.44	294004	3.19	more than 2



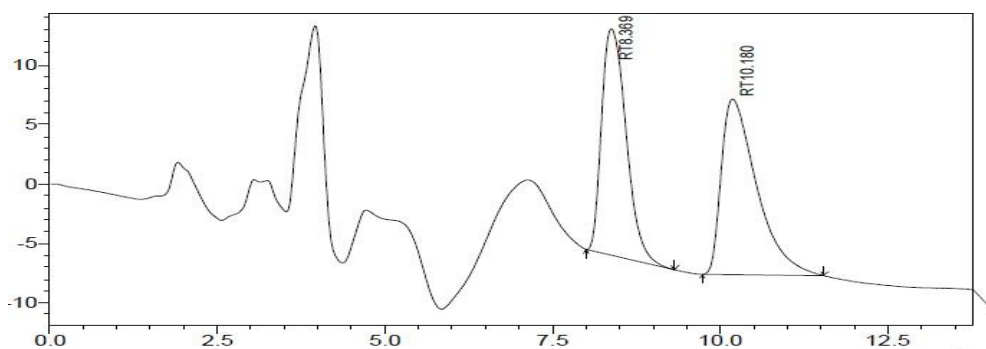
**Figure S5:** Trial 5 HPLC chromatogram

Analyte	Rt (min)	Plates	Tailing	Area	Resolution	Observation
<b>Imatinib</b>	4.86	1254	0.71	52950	—	Merging of peak
<b>Dasatinib</b>	5.24	1984	1.25	223492	—	



**Figure S6:** Trial 6 HPLC chromatogram

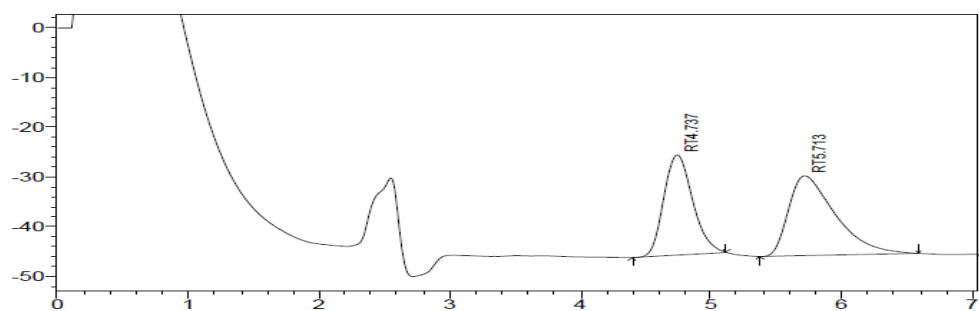
Analyte	Rt (min)	Plates	Tailing	Area	Resolution	Observation
<b>Imatinib</b>	8.88	1625	2.24	1513532	–	Asymmetry
<b>Dasatinib</b>	11.69	1758	2.49	894005	1.92	more than 2



**Figure S7:** Trial 7 HPLC chromatogram

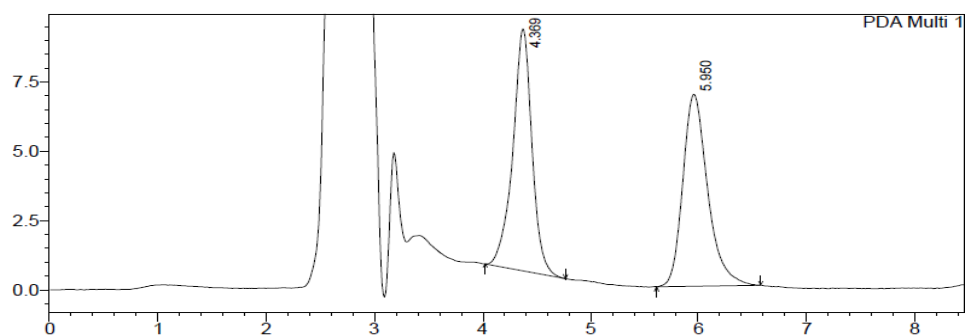
Analyte	Rt (min)	Plates	Tailing	Area	Resolution	Observation
Imatinib	8.36	1426	1.89	486272	—	Tailing more than 2
Dasatinib	10.18	1284	2.31	544643	2.41	





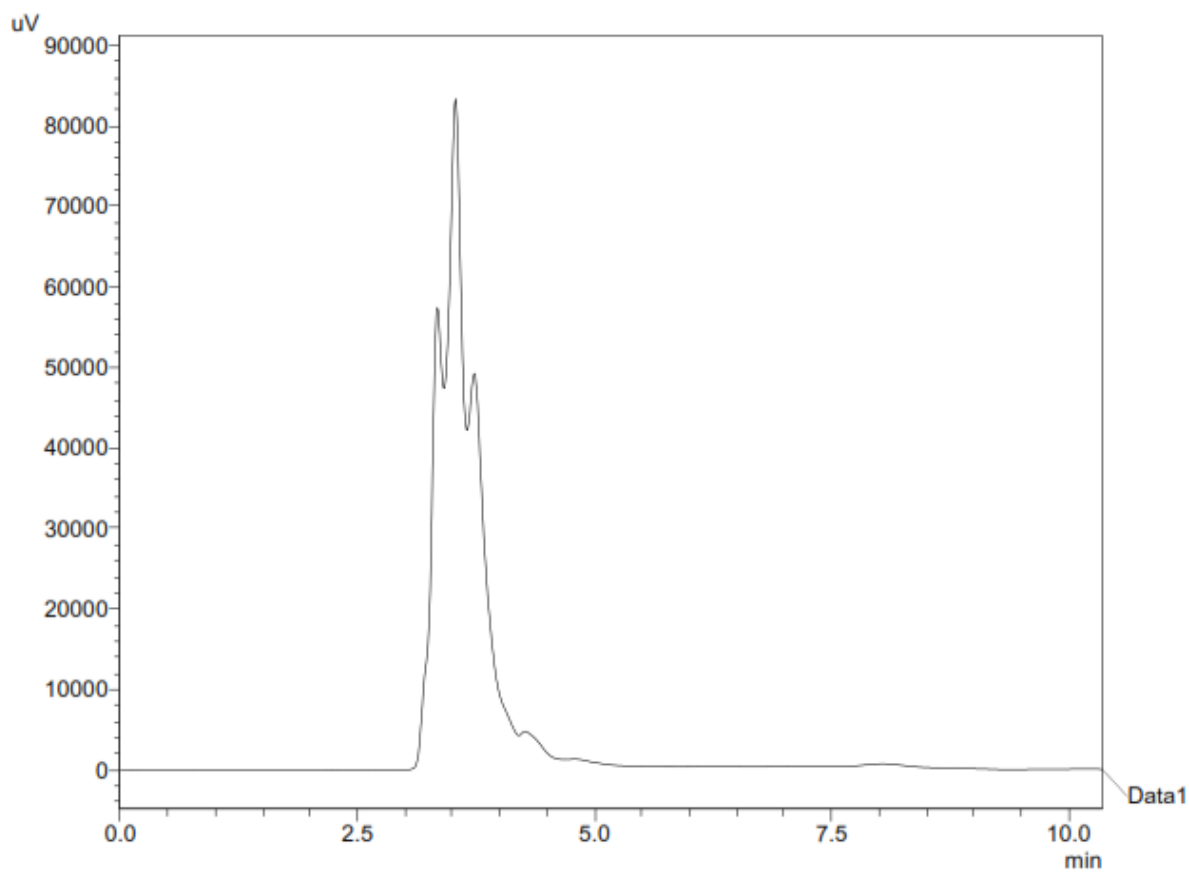
**Figure S8:** Trial 8 HPLC chromatogram

Analyte	Rt (min)	Plates	Tailing	Area	Resolution	Observation
<b>Imatinib</b>	4.73	1149	2.13	310880	–	Tailing more than 2
<b>Dasatinib</b>	5.71	924	2.91	399682	2.11	

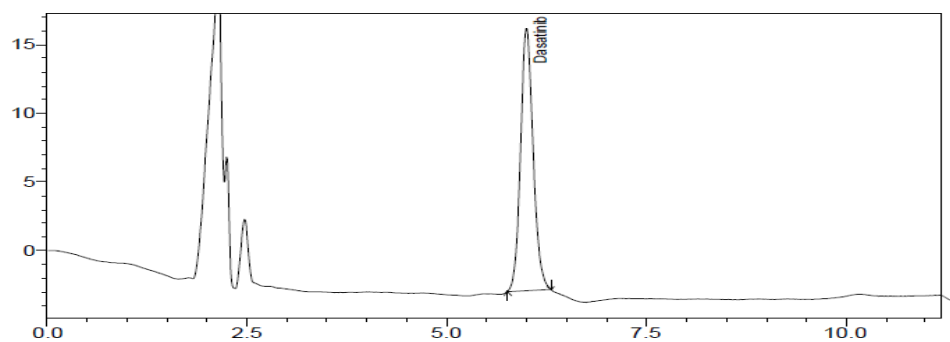


**Figure S9:** Optimized chromatographic Condition

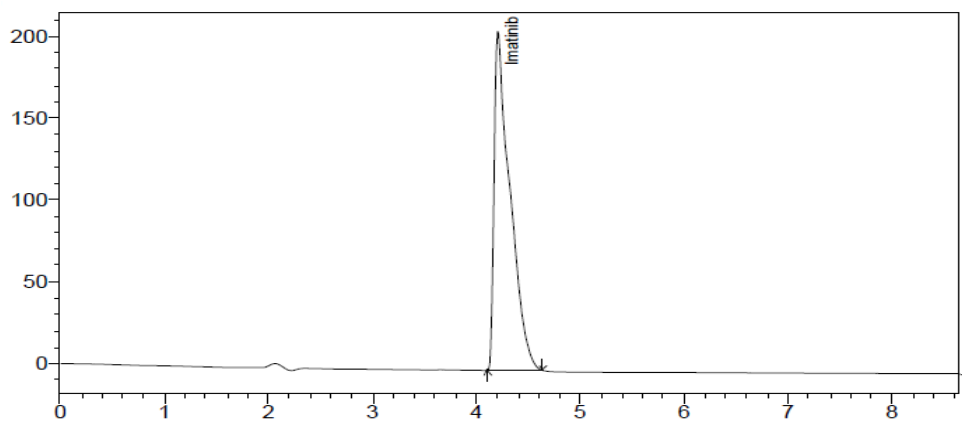
Analyte	Rt (min)	Plates	Tailing	Area	Resolution	Observcation
<b>Imatinib</b>	3.66	2315	0.95	107784	–	Well resolved
<b>Dasatinib</b>	3.92	2415	1.34	111199	4.25	peak without asymmetry



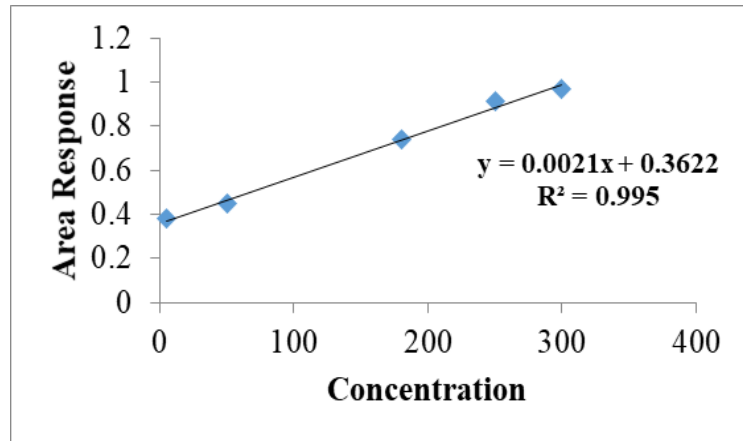
**Figure S10:** Chromatogram for blank plasma



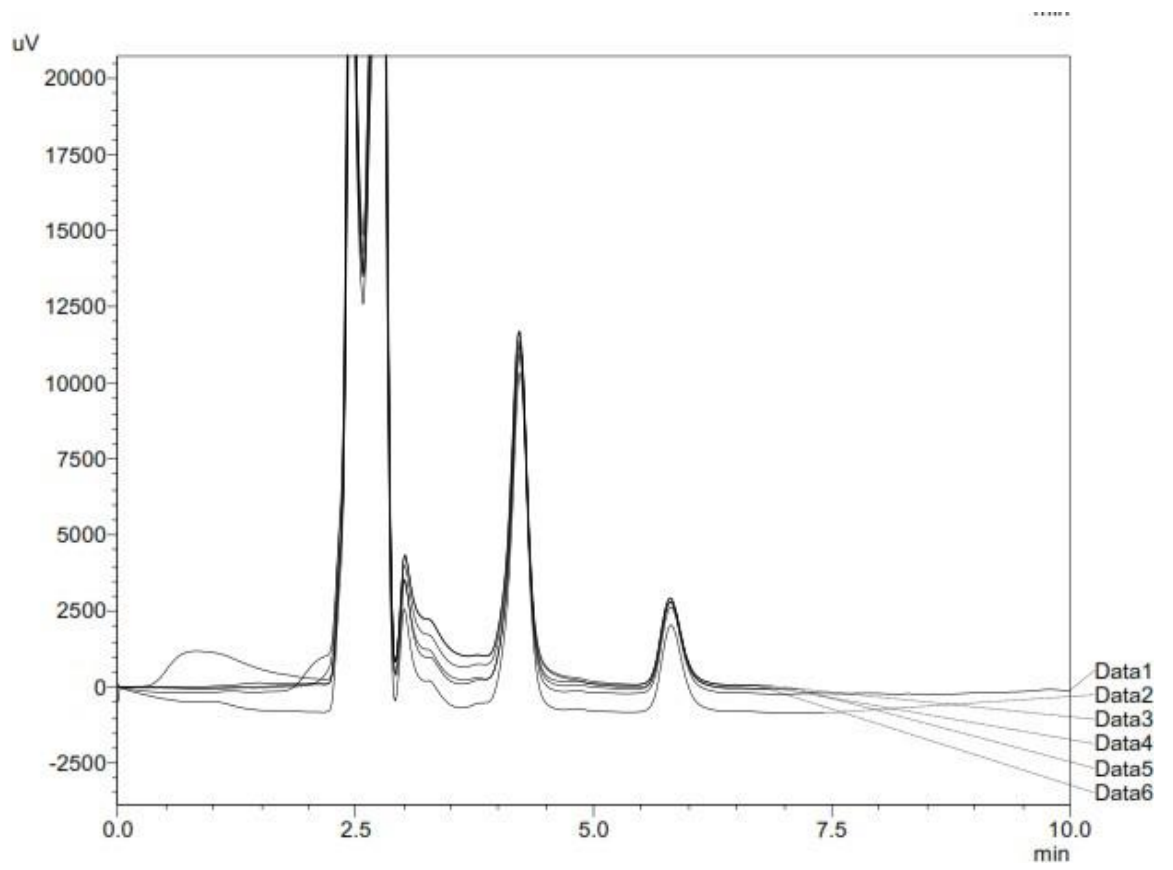
**Figure S11:** Chromatogram of Dasatinib



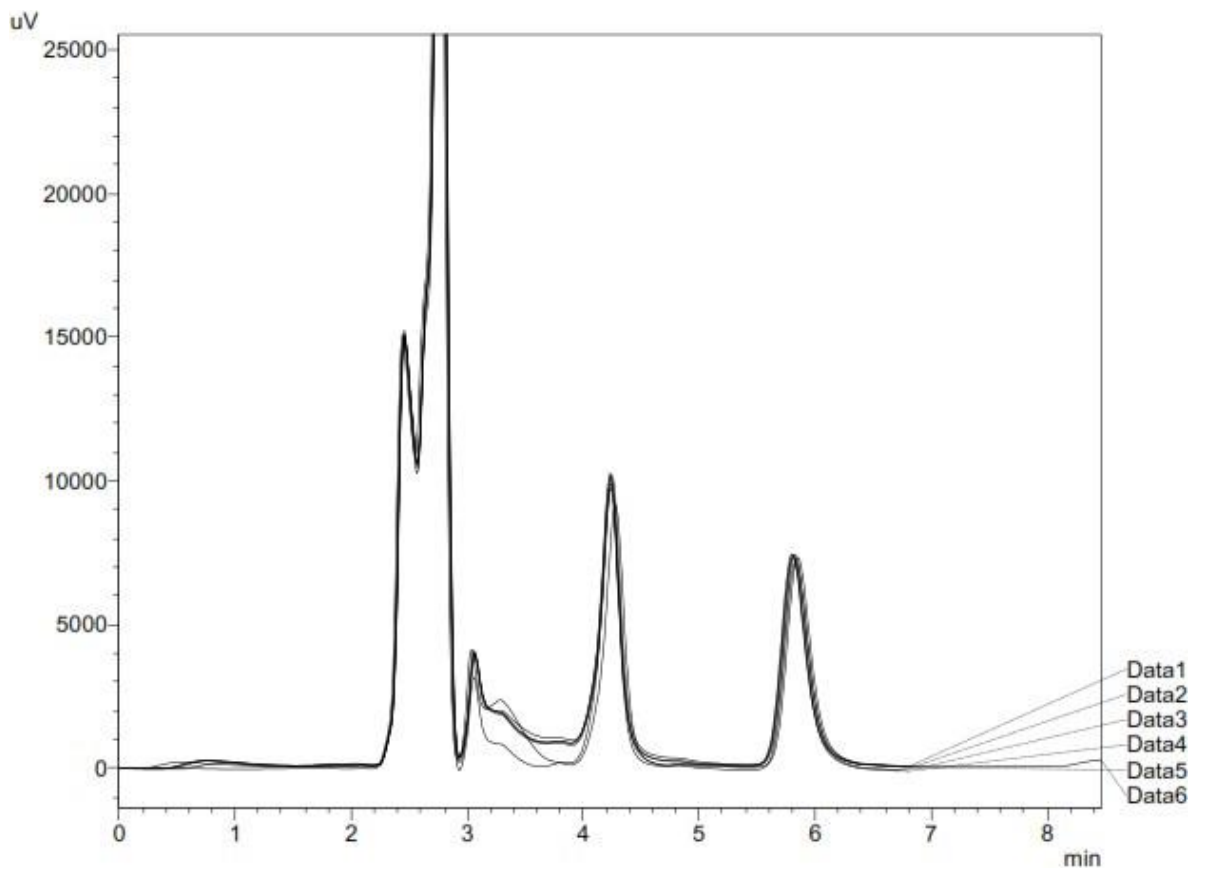
**Figure S12:** Chromatogram of Imatinib (Internal standard)



**Figure S13:** Calibration curve of Dasatinib

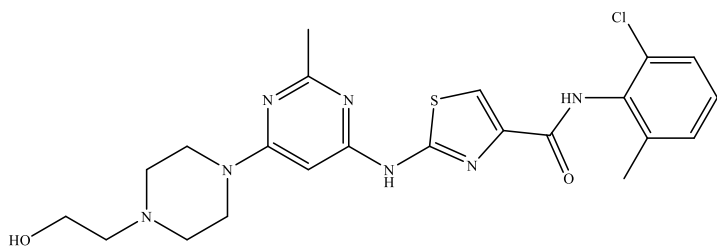


**Figure S14:** Overlay chromatogram at LLOQ



**Figure S15:** Overlay chromatogram at ULOQ





**Molecular Formula:** C<sub>22</sub>H<sub>26</sub>ClN<sub>7</sub>O<sub>2</sub>S

**Molecular Weight:** 488.01g/mol

**Solubility:** 0.0128 mg/mL in water and 14.3 mg mL<sup>-1</sup> in DMF

**Melting Point:** 280-286 °C

**pka:** 7.22 and 8.49

**Figure S16:** Chemical structure and physicochemical properties of Dasatinib