*molecules*

MDPI

*Supporting Information*

# Design and Synthesis of Non-Covalent Imidazo[1,2-*a*]quinoxaline-Based Inhibitors of EGFR and Their Anti-Cancer Assessment

**Manvendra Kumar [1], Gaurav Joshi [1,2], Sahil Arora [1], Tashvinder Singh [3], Sajal Biswas [1], Nisha Sharma [4], Zahid Rafiq Bhat [4], Kulbhushan Tikoo [4], Sandeep Singh [3,*] and Raj Kumar [1,*]**

[1] Laboratory for Drug Design and Synthesis, Department of Pharmaceutical Sciences and Natural Products, School of Health Sciences, Central University of Punjab, Bathinda 151401, India; pharma.manvendra003@gmail.com (M.K.); garvjoshi@gehu.ac.in (G.J.); deepsahil7999@gmail.com (S.A.); sajal.143rx@gmail.com (S.B.)

[2] School of Pharmacy, Graphic Era Hill University, Dehradun 248171, India

[3] Department of Human Genetics and Molecular Medicine, Central University of Punjab, Bathinda 151401 Punjab, India; sidhu.tash@gmail.com (T.S.); sandeepsingh82@gmail.com (S.S.)

[4] Department of Pharmacology and Toxicology, National Institute of Pharmaceutical Education and Research, S.A.S. Nagar, Punjab 160062, India; nishasharma.nics8@gmail.com (N.S.); zbhat800@gmail.com (Z.R.B.); tikoo.k@gmail.com (K.T.)

* Correspondence: raj.khunger@gmail.com or raj.khunger@cup.edu.in

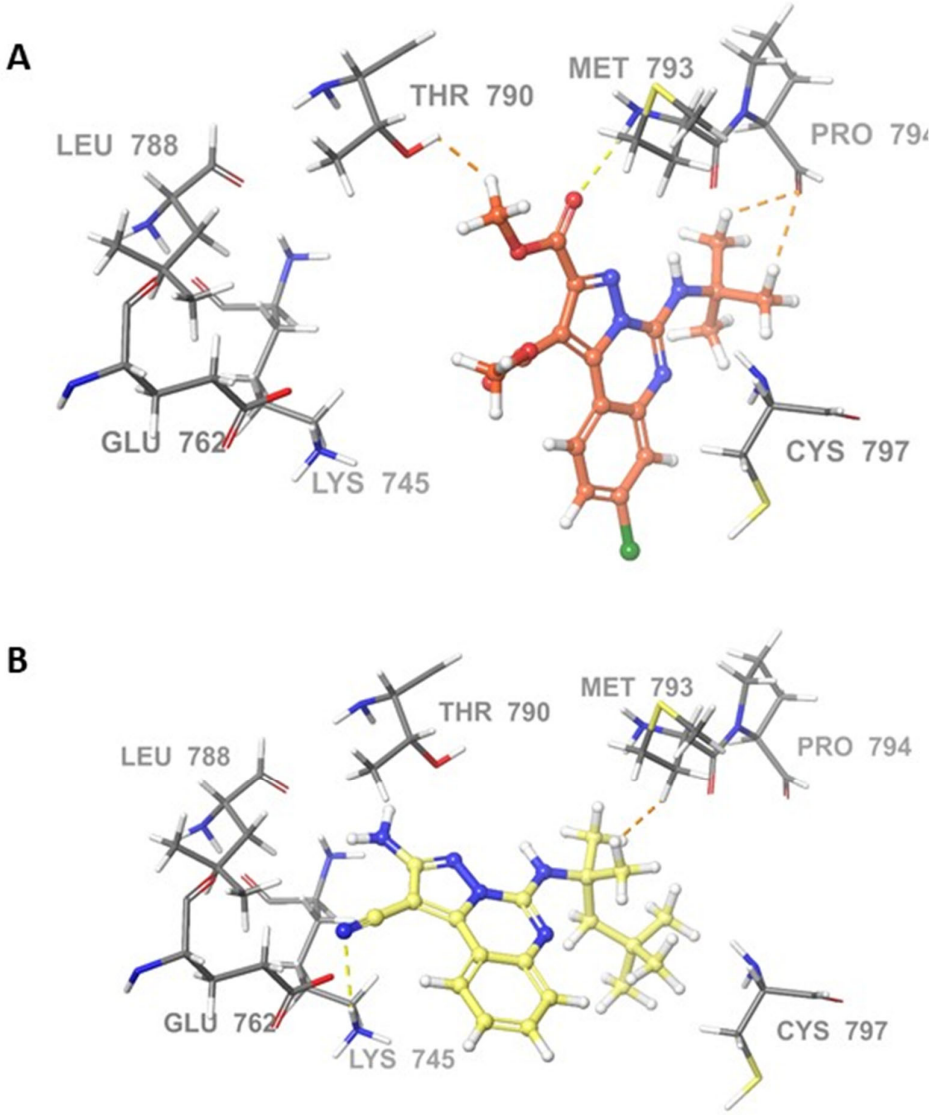



**Figure S1.** 3D docking pose of **A. I** and **B. II**, at EGFR ATP kinase domain.

**Table S1.** Docking scores of **I**, **II**, erlotinib and designed compound **6b.**

| Entry | Compound | Dock score |
|---|---|---|
| 1 | 6b | −5.463 |
| 2 | **I** | −4.950 |
| 3 | **II** | −4.067 |
| 4 | Erlotinib | −4.985 |

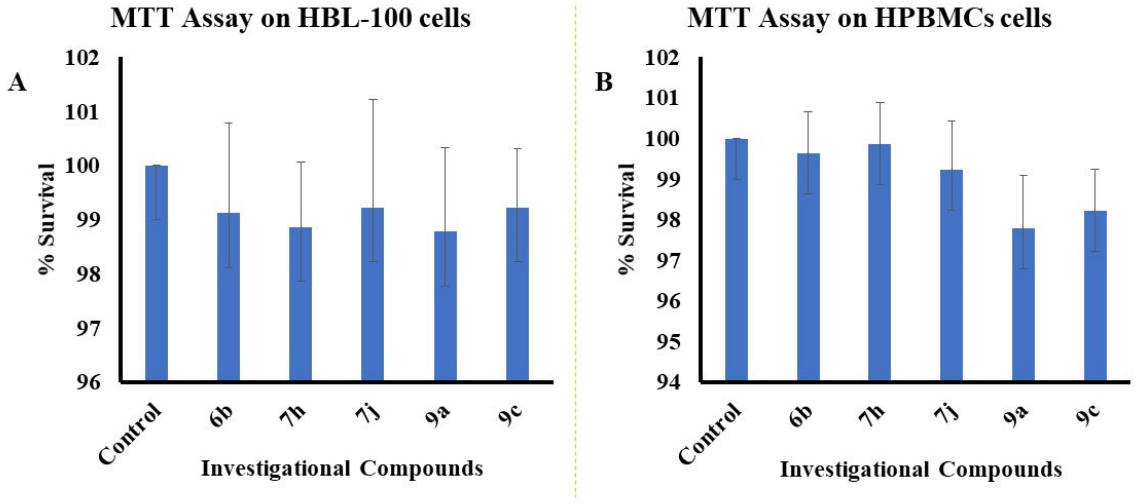



**Figure S2.** Bar graphs representing percentage survival of normal cells, **A.** HBL-100 (breast); **B.** HPBMCs (Human Peripheral Blood Mononuclear Cells), upon treatment with investigational compounds **6b, 7h, 7j, 9a** and **9c** at 10 μM concentration previously incubated for 24 h.

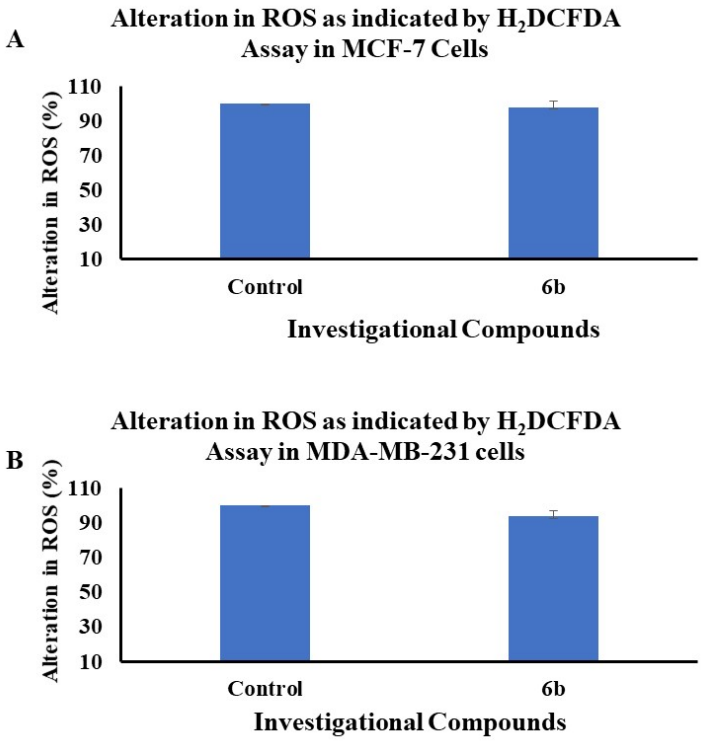
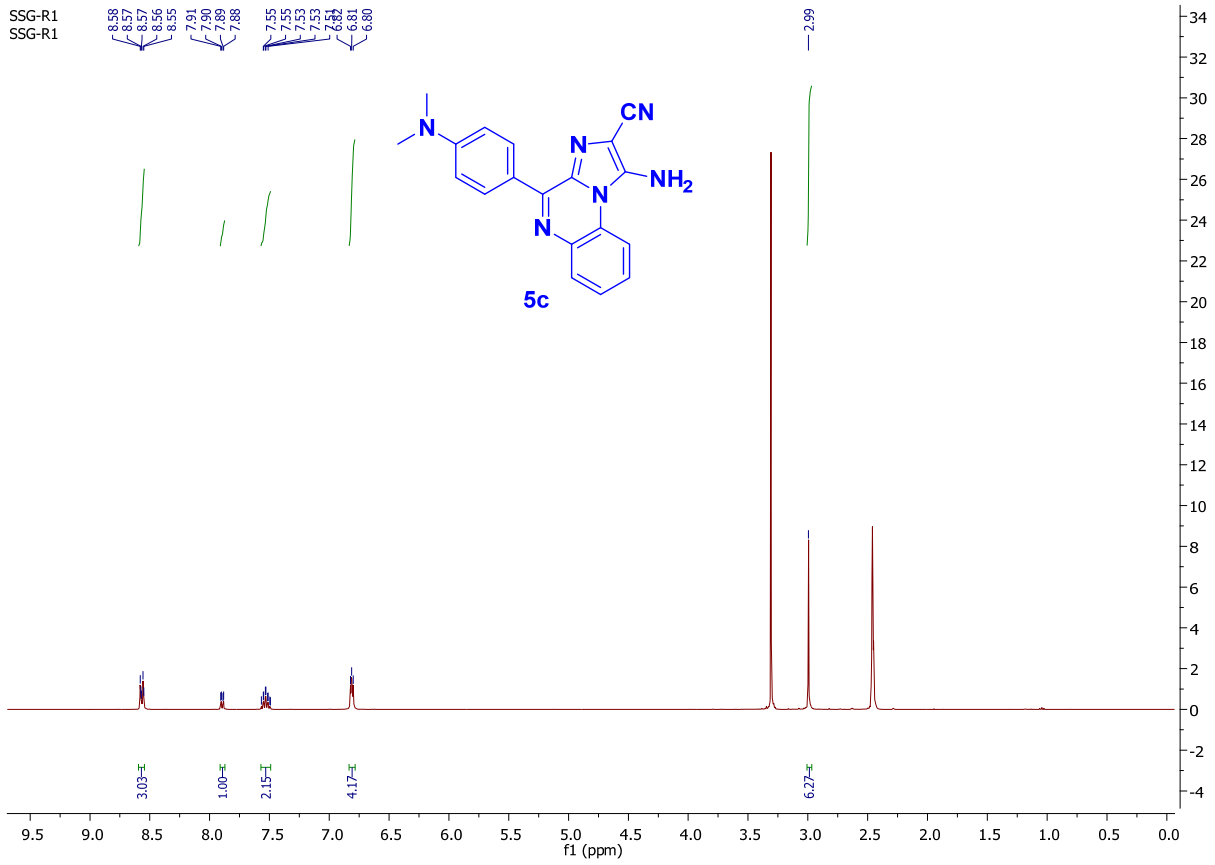


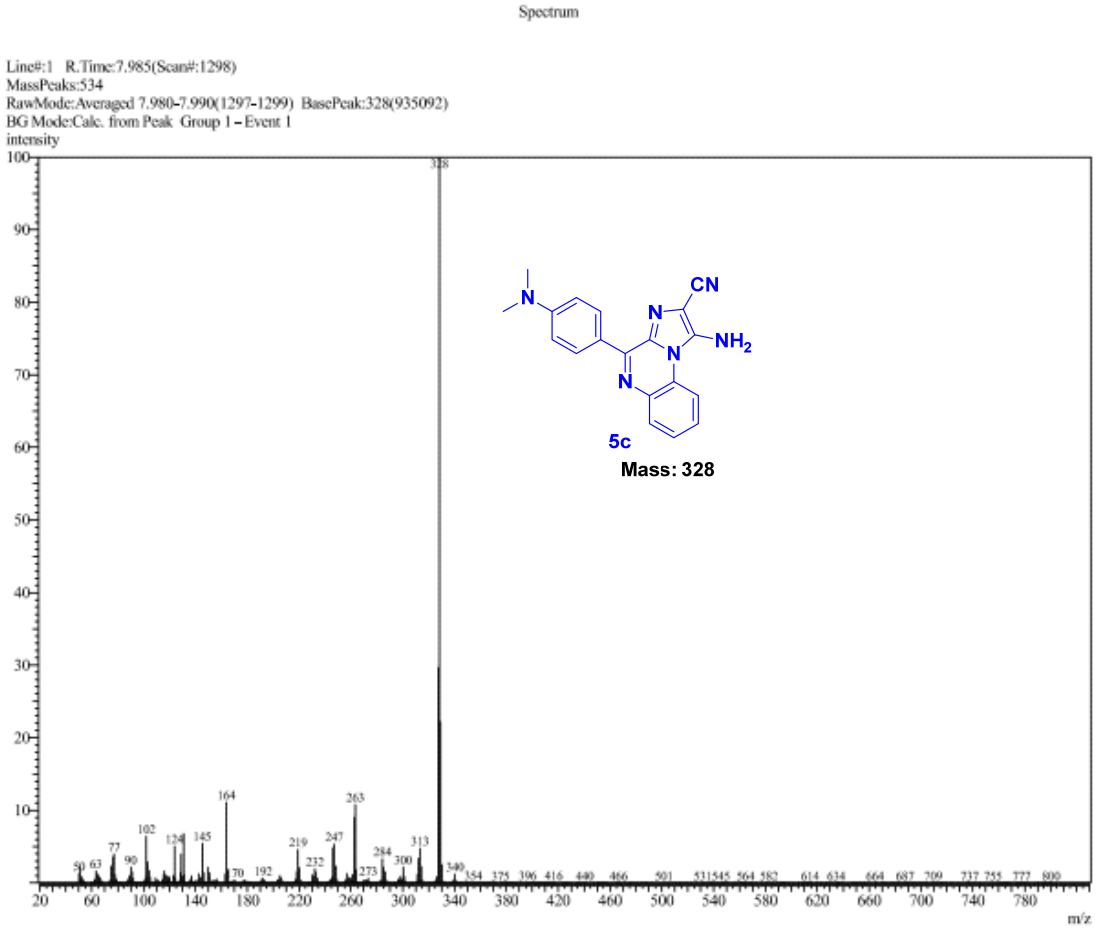

**Figure S3.** Bar graphs representing alteration in ROS as indicated by $H_2$DCFDA assay in **A.** MCF-7; **B.** MDA-MB-231 cells. The assays were performed in cancer cells previously treated with investigational compound **6b** at sub-$IC_{50}$ concentration for 48 h before analysis.

## Spectra for representative compounds (Figures S4–S11)

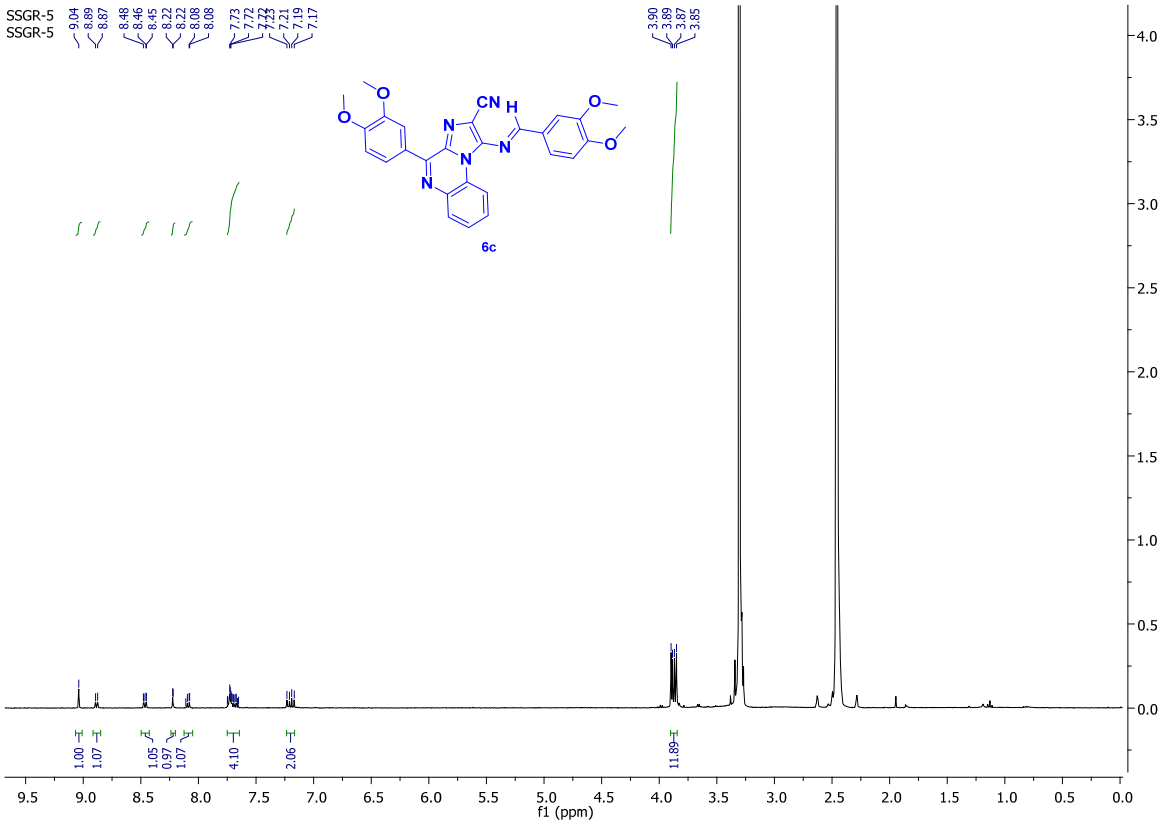
*$^1$H-NMR*

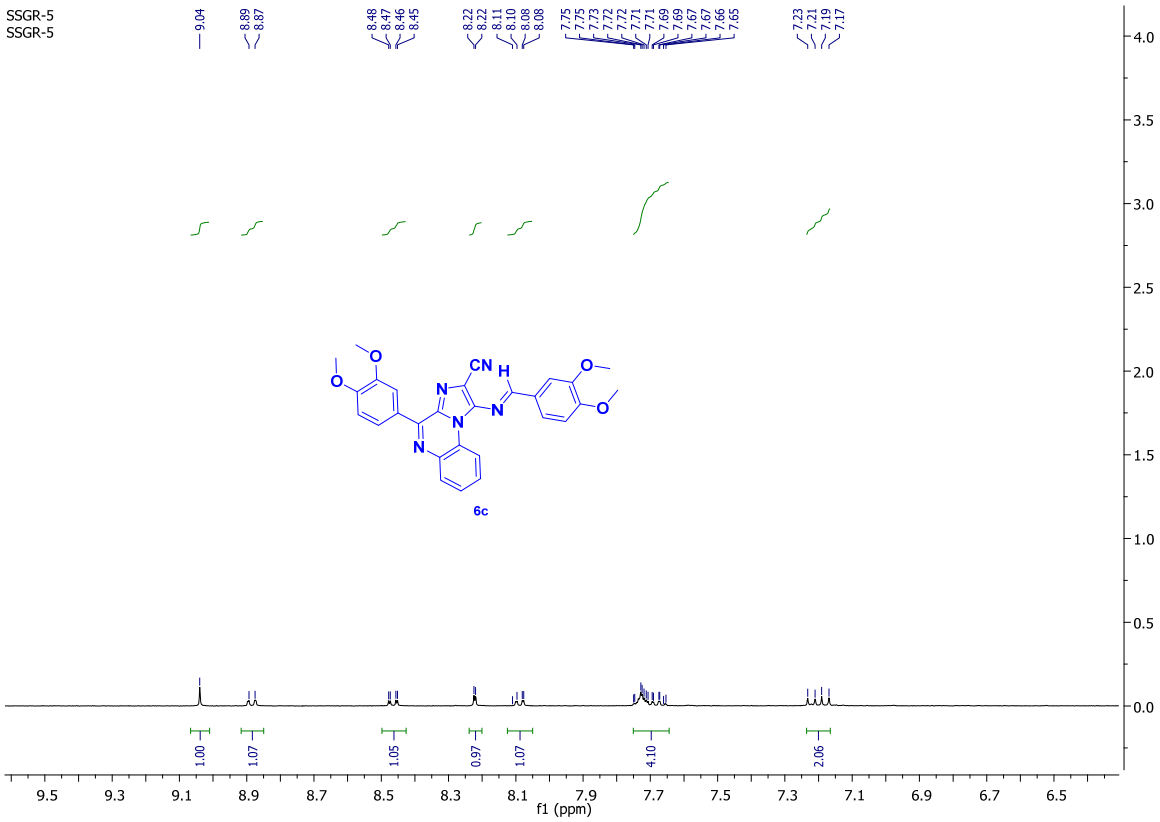


*Mass Spectrometry*

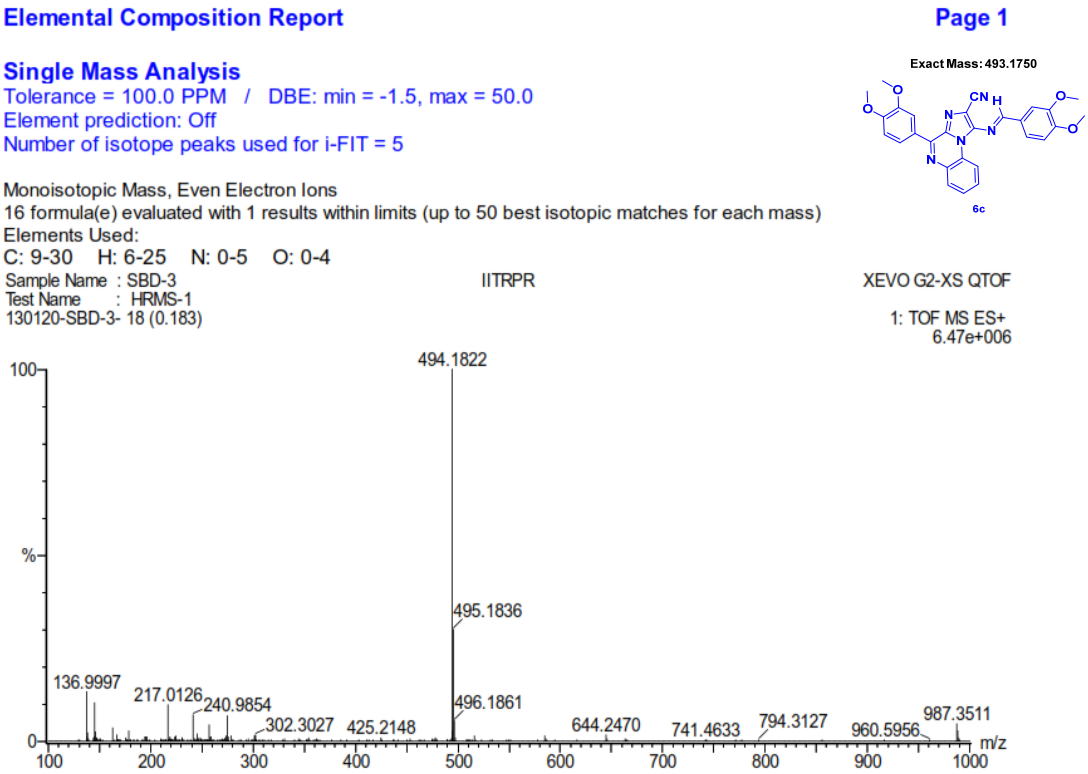


*$^1$H-NMR*

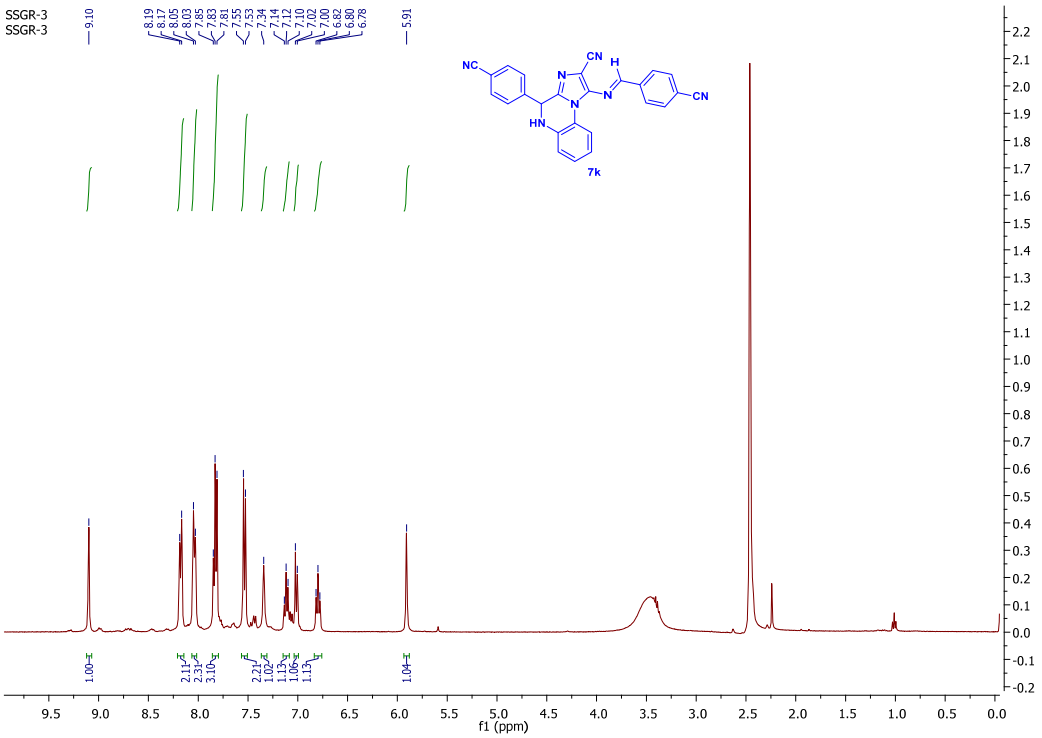

SSGR-5
SSGR-5
9.04
8.89
8.87
8.48
8.46
8.45
8.22
8.22
8.08
8.08
7.73
7.72
7.72
7.25
7.21
7.19
7.17
3.90
3.89
3.87
3.85
CN
H
N
N
N
N
O
O
O
O
6c
1.00
1.07
1.05
0.97
1.07
4.10
2.06
11.89
f1 (ppm)



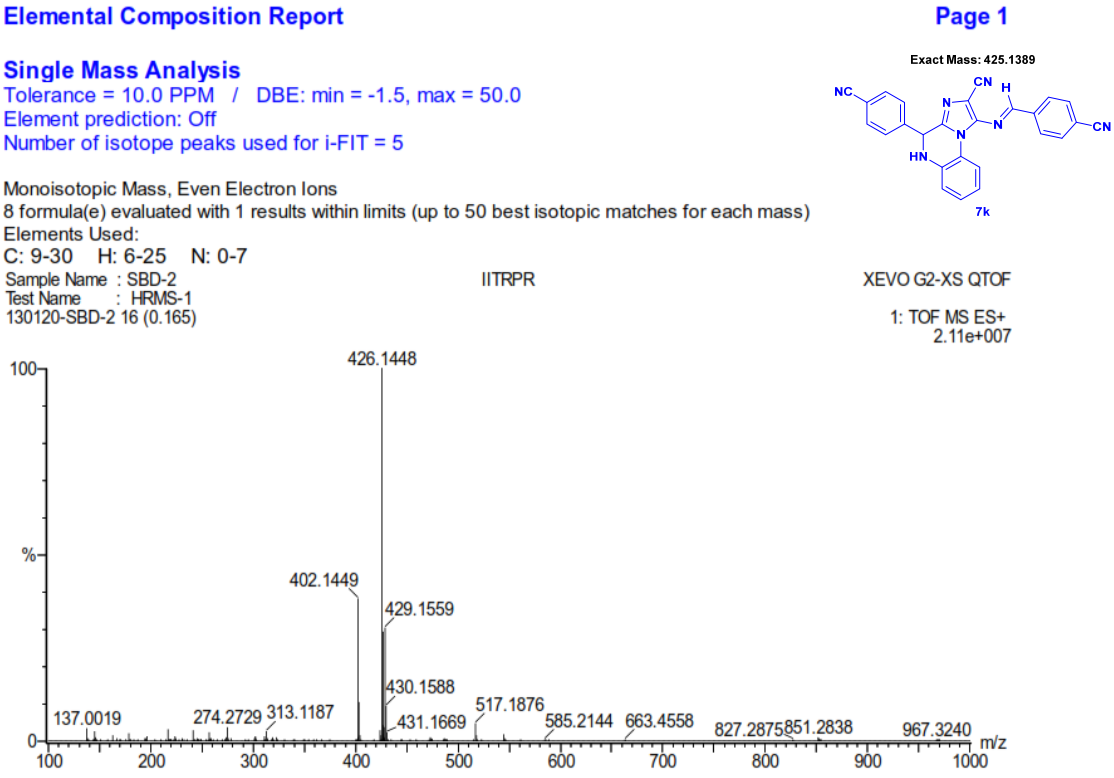

*Mass Spectrometry*



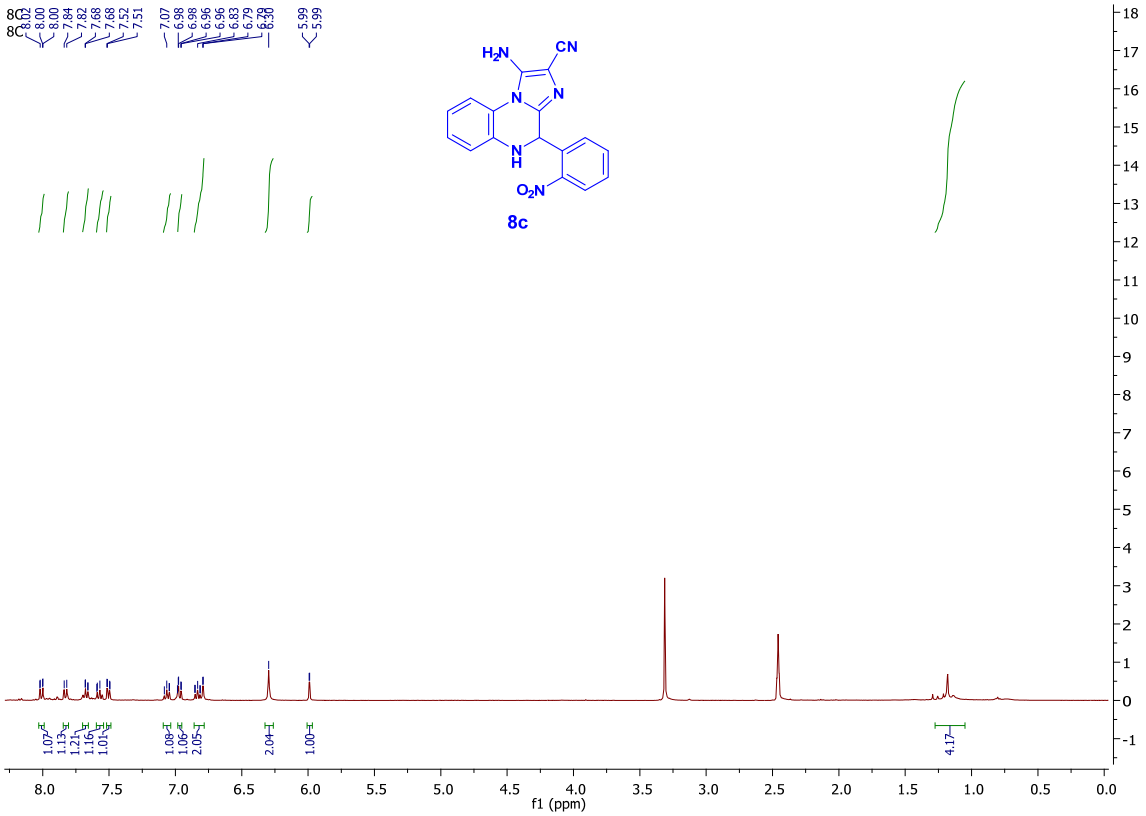
*$^1$H-NMR*




*Mass Spectrometry*



*$^1$H-NMR*


8.02
8.01
8.00
8.00
7.84
7.82
7.68
7.68
7.52
7.51
7.07
6.98
6.98
6.96
6.96
6.83
6.79
6.78
6.30
5.99
5.99
H2N
CN
N
N
N
H
O2N
8c
1.07
1.13
1.21
1.16
1.01
1.08
1.06
2.05
2.04
1.00
4.17
f1 (ppm)