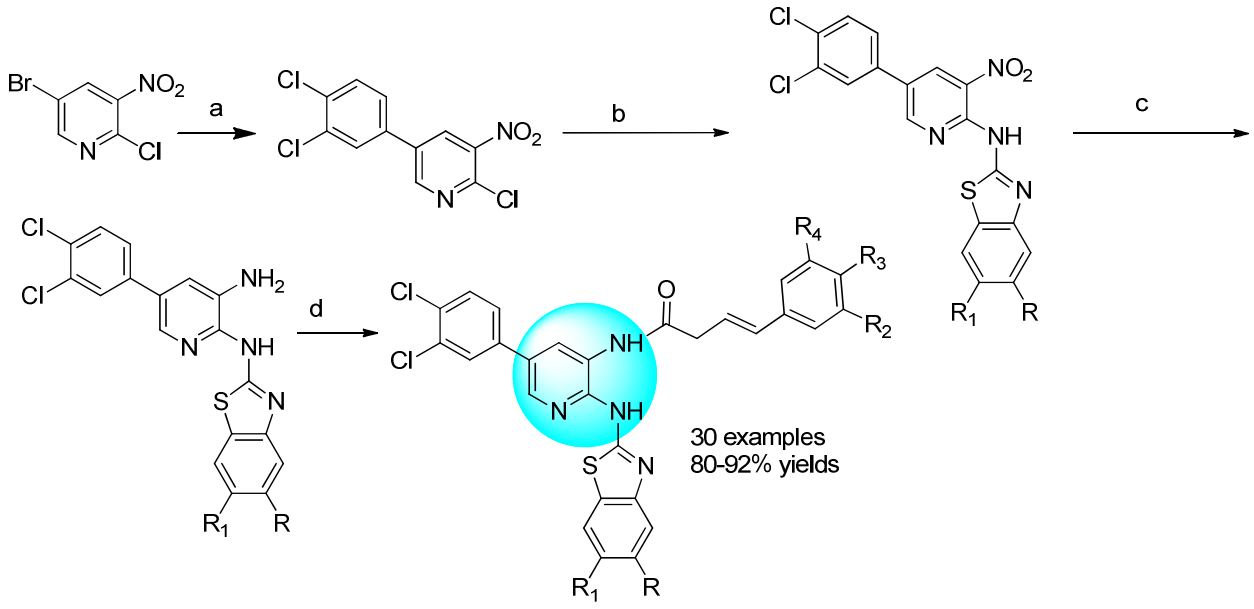
Design and synthesis of (*E*)-N-(2-(benzo[d]thiazol-2-ylamino)-5-phenylpyridin-3-yl)-4-phenylbut-3-enamide and their anticancer activity

Jyothi Vantikommu[a], Sreelatha Vanjivaka[a] and Prof. Jaya Shree Anireddy[a]
[a.]Centre for Chemical Science and Technology,Institute of Science Technology,JNTUH, Hyderabad.
Email: *Jyothi.vantikommu@gmail.com*

Abstarct:

We designed, synthesized and development of (*E*)-N-(2-(benzo[d]thiazol-2-ylamino)-5-phenylpyridin-3-yl)-4-phenylbut-3-enamide derivetives and their anticancer activity. E7010 ring containing scaffolds were showed cell cycle arrest and apoptosis in M phase .This compound exhibits good in vivo antitumor activity against several rodent as well as human tumours and is in phase II clinical studies. These inducers that are known to arrest cells in G2/M phase and structure–activity relationship (SAR) studies indicate that the 3-pyridyl group is very important for their activity. *N*-Phenyl nicotinamides are known as apoptosis inducers which block the cell cycle in G2/M phase 3- pyridyl group is crucial for their activity. Based on these previous literature we designed *E*)-N-(2-(benzo[d]thiazol-2-ylamino)-5-phenylpyridin-3-yl)-4-phenylbut-3-enamide scaffold, and synthesized, these library of derivatives screened for their anticancer activity on selected human cancer lines and further evaluation.



References

1. Maya, A. B. S.; Pérez-Melero, C.; Mateo, C.; Alonso, D.; Fernández, J. L.; Gajate, C.; Mollinedo, F.; Peláez, R.; Caballero, E.; Medarde, M. *J. Med. Chem*. **2005**, 48, 556–568.
2. Hu, L.; Li, Z.-R.; Li, Y.; Qu, J.; Ling, Y.-H.; Jiang, J.-D.; Boykin, D. W. *J. Med. Chem.* **2006**, 49, 6273–6282.
3. Fujishige, K.; Kotera, J.; Omori, K. *Eur. J. Biochem*. **1999**, 266, 1118–1127.