

## **Supporting Information**

# Pyrazolylamine derivatives reveal the conformational switching between type-I and type-II binding modes of anaplastic lymphoma kinase (ALK)

*Chih-Hsiang Tu,<sup>†</sup> // Wen-Hsing Lin,<sup>†§</sup> Yi-Hui Peng,<sup>†§</sup> Tsu Hsu,<sup>†</sup> Jian-Sung Wu,<sup>†</sup> Chun-Yu Chang,<sup>†</sup> Cheng-Tai Lu,<sup>†</sup> Ping-Chiang Lyu,<sup>||</sup> Chuan Shih,<sup>†</sup> Weir-Torn Jiaang,<sup>†\*</sup> Su-Ying Wu<sup>†\*</sup>*

<sup>†</sup> Institute of Biotechnology and Pharmaceutical Research, National Health Research Institutes,  
35 Keyan Road, Zhunan Town, Miaoli County 350, Taiwan, ROC

<sup>||</sup> Institute of Bioinformatics and Structural Biology, National Tsing Hua University, 101, Sect.2,  
Guangfu Road, Hsinchu 300, Taiwan, ROC

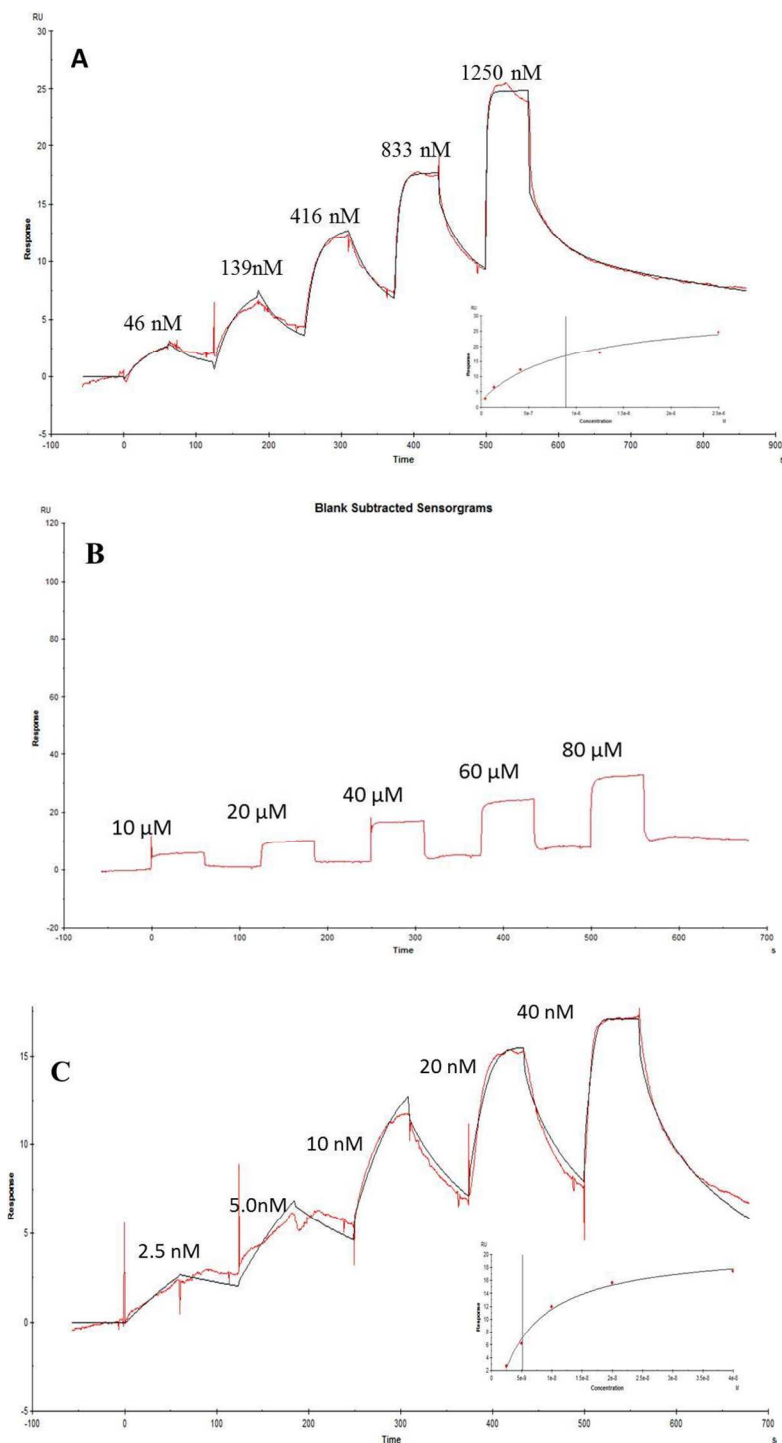
§ W.-H. L. and Y.-H. P. contributed equally

To whom correspondence should be addressed. S.-Y. Wu: phone: 886-37-246-166 ext. 35713; fax:  
886-37-586-456; e-mail: [suying@nhri.org.tw](mailto:suying@nhri.org.tw); W.-T. Jiaang Phone: +886-37-246-166 extension 35712. Fax:  
+ 886-37-586-456. Email: [wtjiaang@nhri.org.tw](mailto:wtjiaang@nhri.org.tw) for WTJ

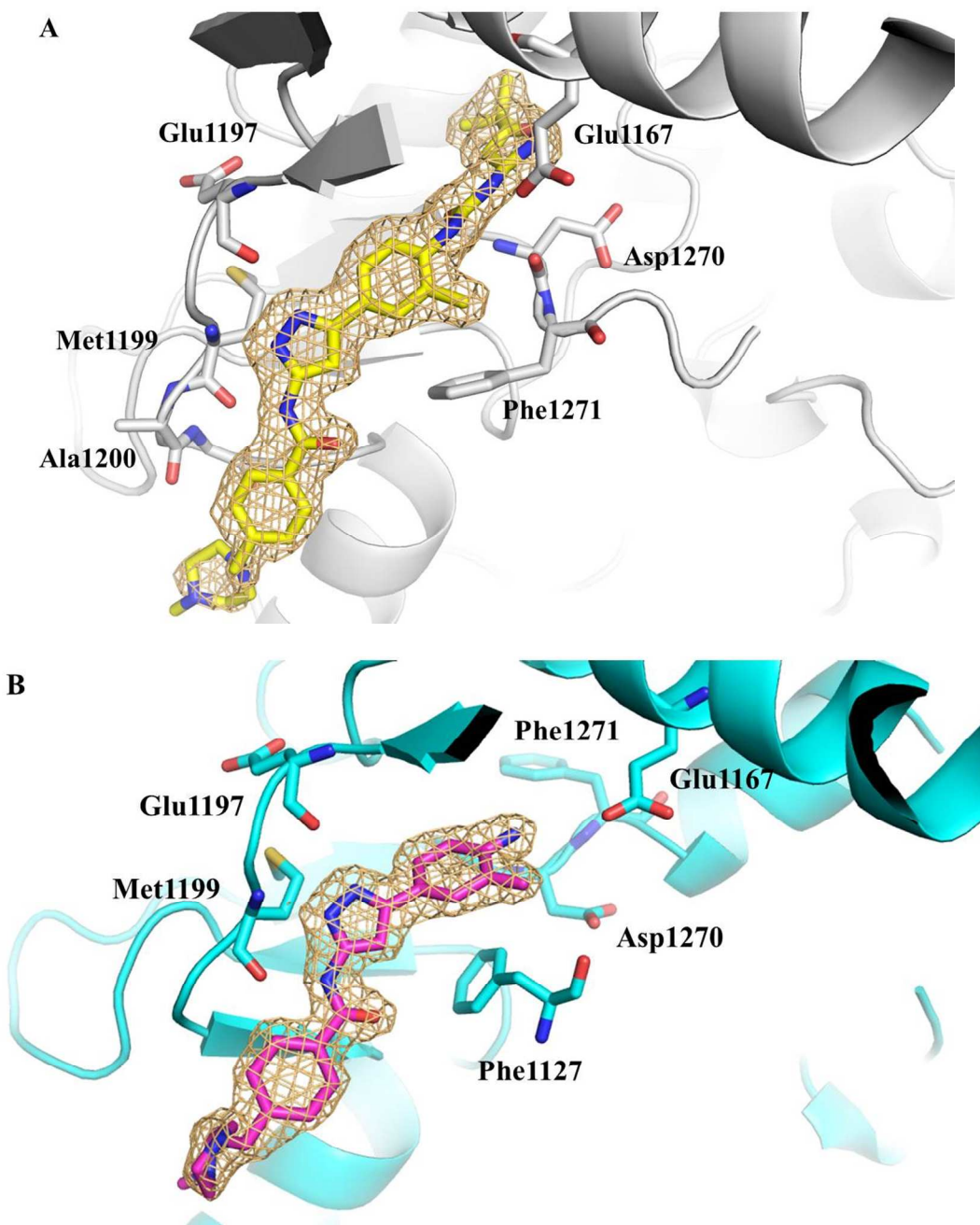
## Contents

<b>Figure S1:</b> SPR single-cycle kinetic analysis	Page S2
<b>Figure S2:</b> The density maps of compound <b>5a</b> , <b>4</b> and <b>5d</b>	Page S3
<b>Figure S3:</b> The structure of <b>5a</b> and the docking position of the designed ALK inhibitor in the binding site of ALK	Page S5

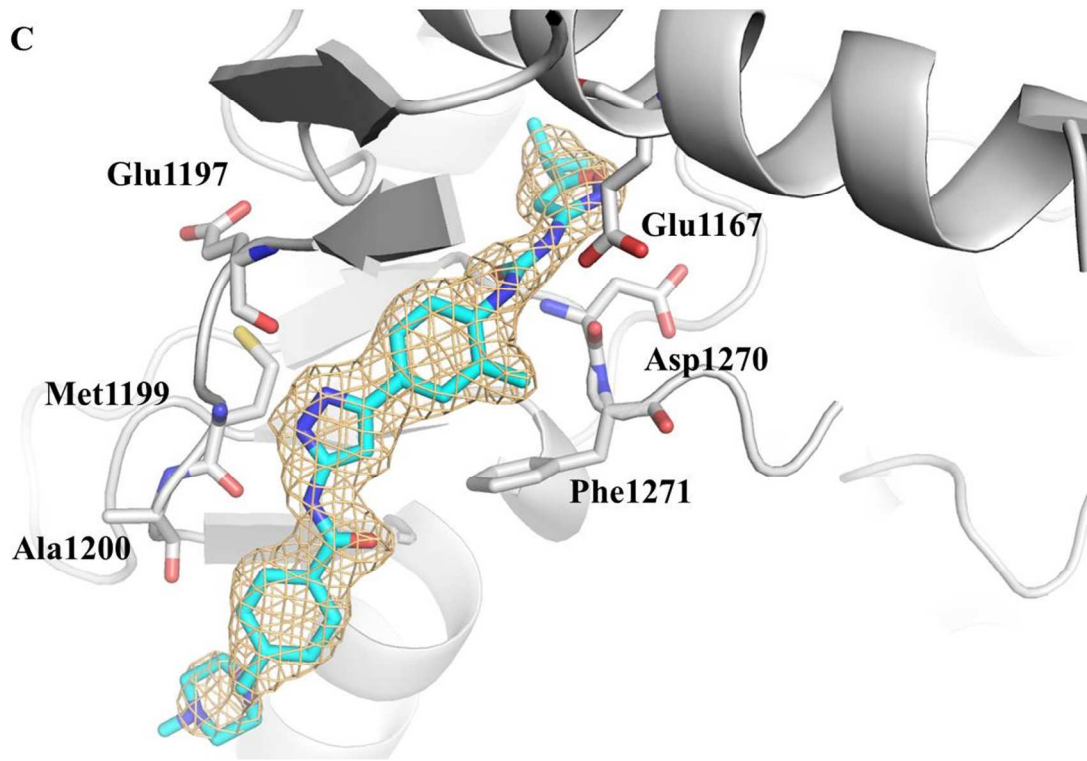
**Figure S1.** SPR single-cycle kinetic analysis was used to evaluate the binding kinetics of (A) **5a**, (B) **4**, and (C) crizotinib with ALK. The insertion figure was the steady-state analysis.



**Figure S2.** Compounds **5a**, **4** and **5d** with density maps. (A) The 2fo-fc map of compound **5a** contoured at 0.8  $\sigma$  (B) The 2fo-fc map of compound **4** contoured at 1.0  $\sigma$  (C) The 2fo-fc map of compound **5d** contoured at 1.0  $\sigma$ .



C



**Figure S3.** (A) The structure of **5a** bound to ALK (B) The docking position of the designed ALK inhibitor in the binding site of ALK. Hydrogen bond and charge-charge interaction are shown with red and green dashed lines, respectively. Docking study was performed by GOLD Suite v5.2.

