## Supporting information

Synthesis and Biological Evaluation of *NH*<sub>2</sub>-Sulfonyl Oseltamivir Analogues as Influenza Neuraminidase Inhibitors

Yaping Hu<sup>1</sup>, Binfeng Chen<sup>1</sup>, Zaiqiang Lei<sup>1</sup>, Hongqian Zhao<sup>1</sup>, Hongxi

Zhu<sup>1</sup>, Peng Quan<sup>2,\*</sup>, Yongshou Tian<sup>1,\*</sup>

<sup>1</sup> Key Laboratory of Structure-Based Drug Design and Discovery, Ministry of Education, School of Pharmaceutical Engineering, Shenyang Pharmaceutical University, Shenyang 110016, Liaoning, China; hyp910309@163.com (Y.H); yh\_cbf@163.com (B.C); ZaiqiangLei@126.com (Z.L); zhaohongqian999@163.com (H.Z); 13125557362@163.com (H.Z.)

<sup>2</sup> School of Pharmacy, Shenyang Pharmaceutical University, Shenyang 110016, Liaoning, China

\* Correspondence: quanpeng81@163.com (P.Q.); tianys@syphu.edu.cn (Y.T.);

Tel.: +86-24-4352-0511 (P.Q.); +86-24-4352-0511 (Y.T.)

## The copies of spectrum for compounds 4a-4k and 6i-6k.

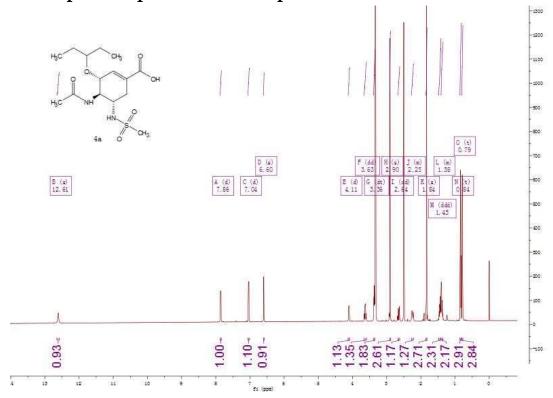


Figure S1. <sup>1</sup>H-NMR of compound 4a.

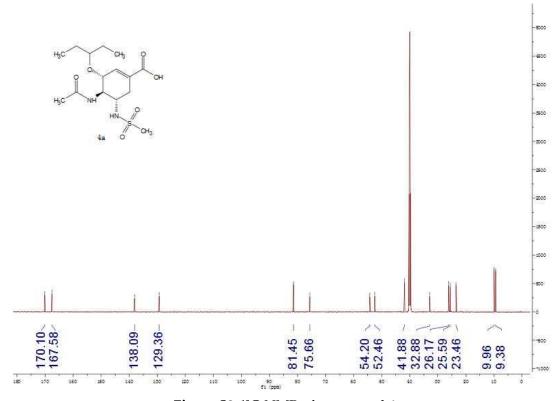


Figure S2. <sup>13</sup>C-NMR of compound 4a.

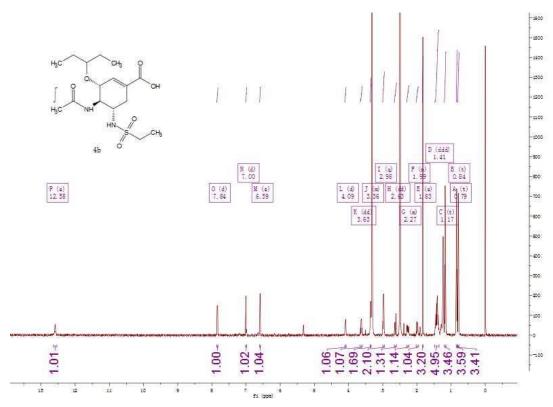


Figure S3. <sup>1</sup>H-NMR of compound 4b.

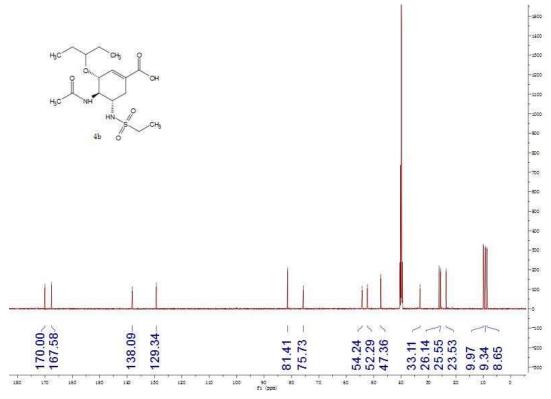


Figure S4. <sup>13</sup>C-NMR of compound 4b.

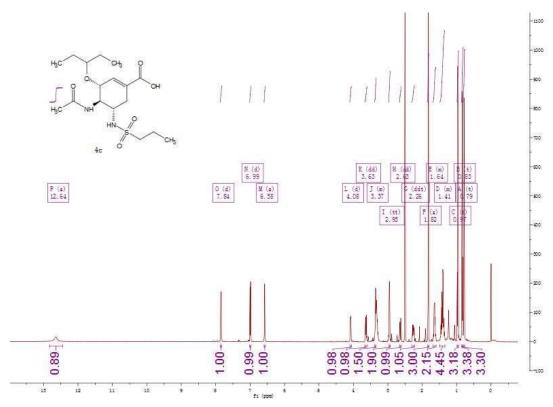


Figure S5. <sup>1</sup>H-NMR of compound 4c.

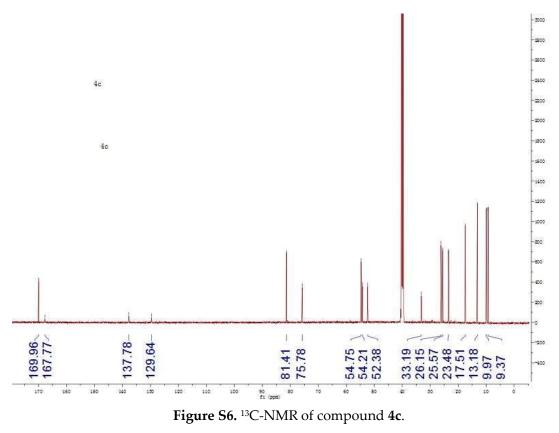


Figure S6. <sup>13</sup>C-NMR of compound 4c.

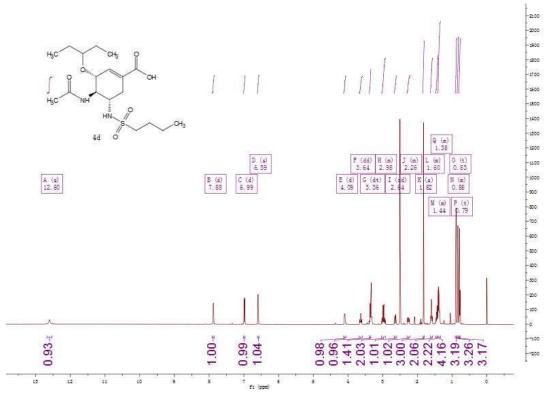


Figure S7. <sup>1</sup>H-NMR of compound 4d.

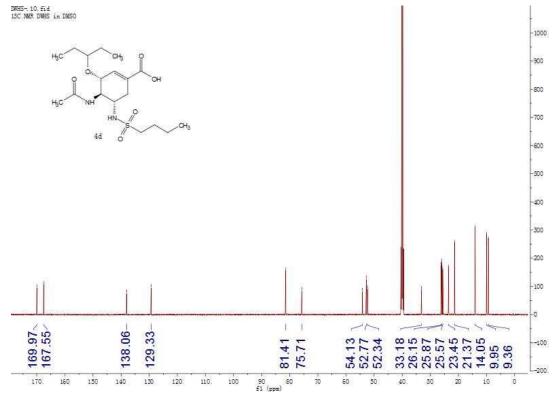


Figure S8. <sup>13</sup>C-NMR of compound 4d.

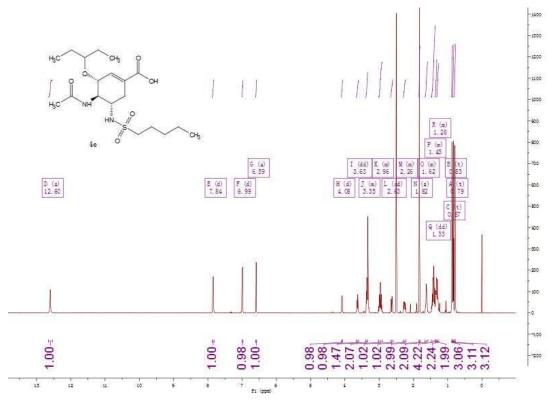


Figure S9. <sup>1</sup>H-NMR of compound 4e.

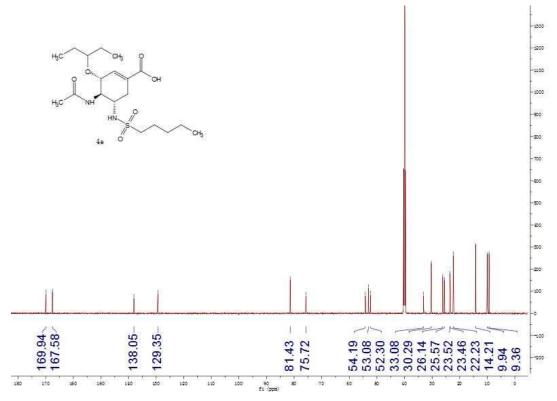


Figure S10. <sup>13</sup>C-NMR of compound 4e.

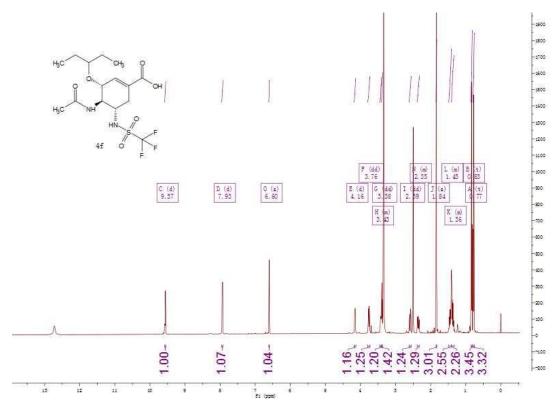


Figure S11. <sup>1</sup>H-NMR of compound 4f.

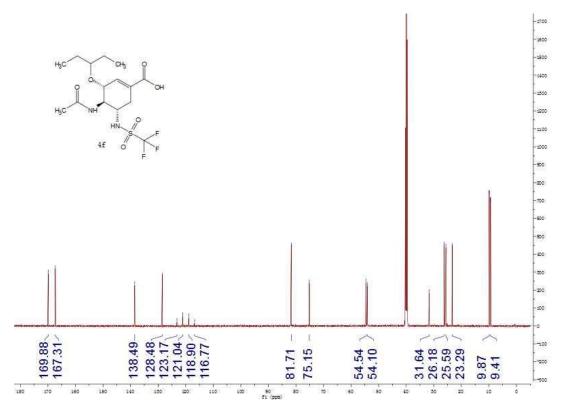


Figure S12. <sup>13</sup>C-NMR of compound 4f.

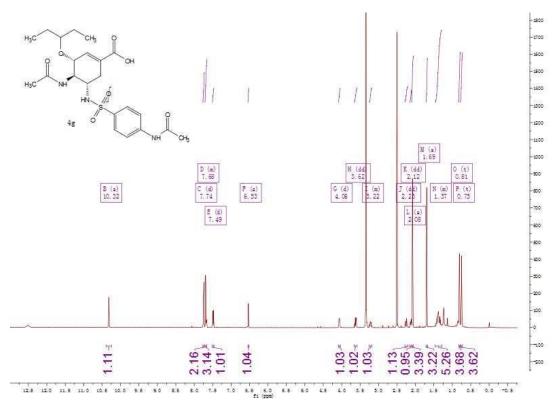


Figure S13. <sup>1</sup>H-NMR of compound 4g.

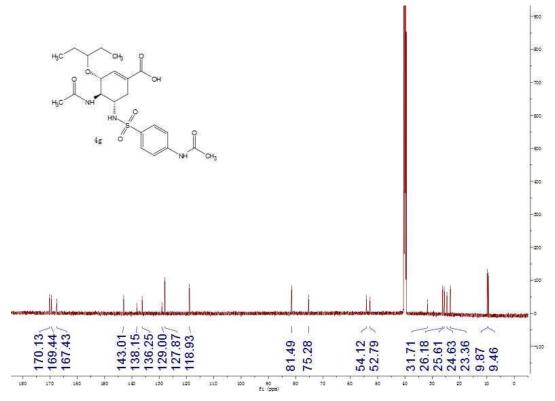


Figure S14. <sup>13</sup>C-NMR of compound 4g.

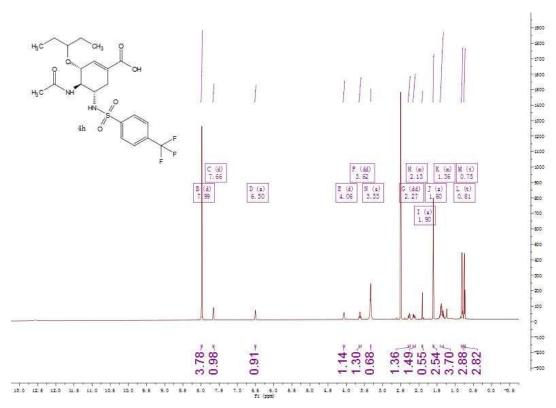


Figure S15. <sup>1</sup>H-NMR of compound 4h.

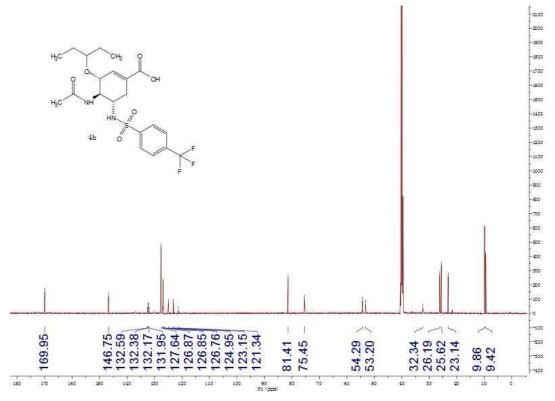


Figure S16. <sup>13</sup>C-NMR of compound 4h.

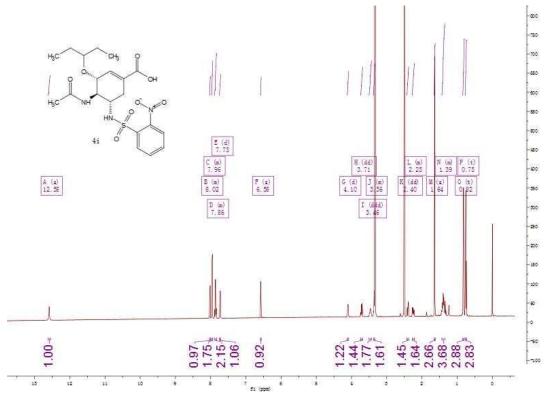


Figure S17. <sup>1</sup>H-NMR of compound 4i.

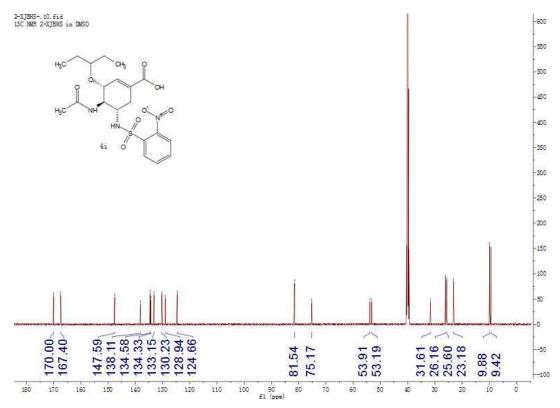


Figure S18. <sup>13</sup>C-NMR of compound 4i.

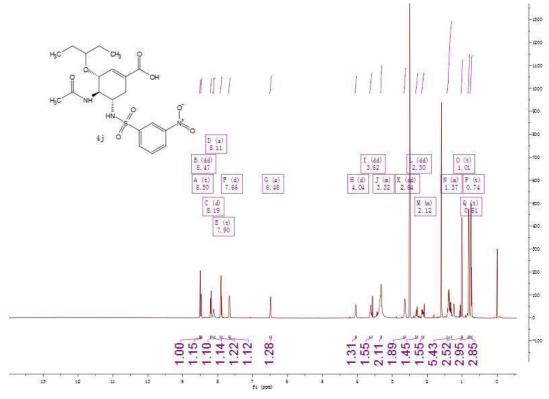


Figure S19. <sup>1</sup>H-NMR of compound 4j.

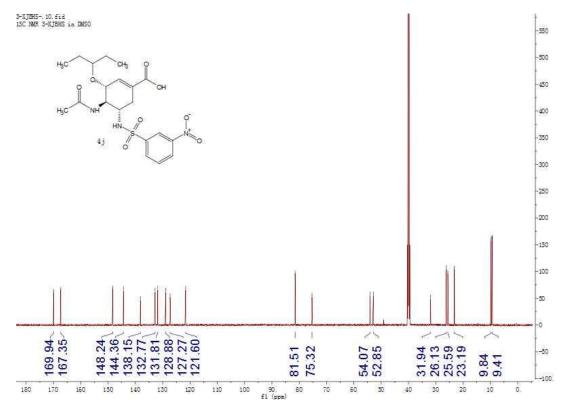


Figure S20. <sup>13</sup>C-NMR of compound 4j.

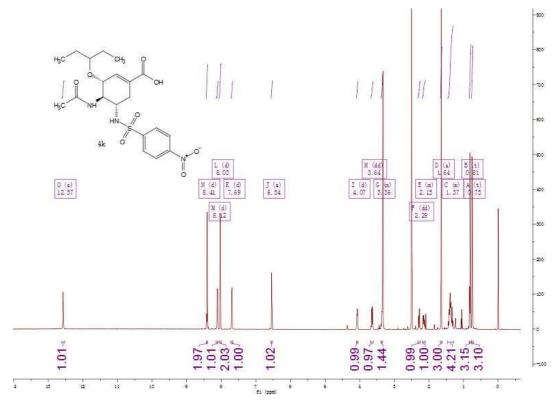


Figure S21. <sup>1</sup>H-NMR of compound 4k.

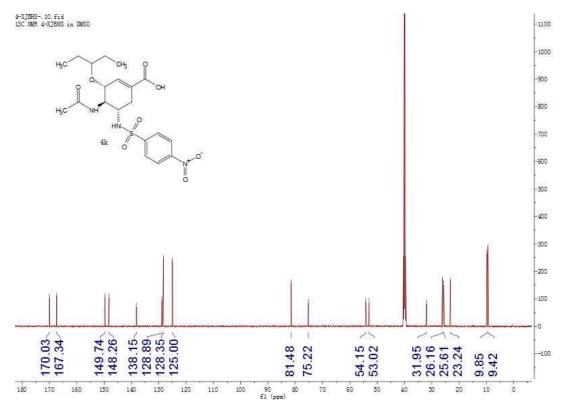


Figure S22.  $^{13}$ C-NMR of compound 4k.

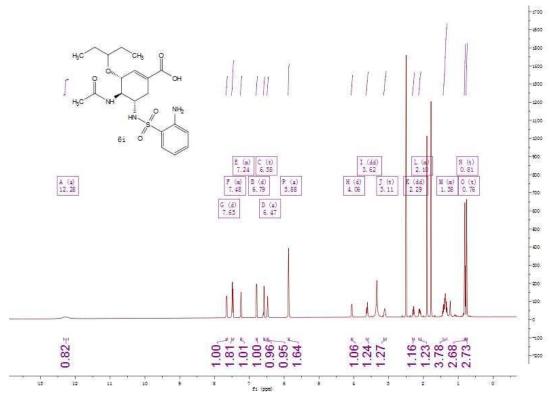


Figure S23. <sup>1</sup>H-NMR of compound 6i.

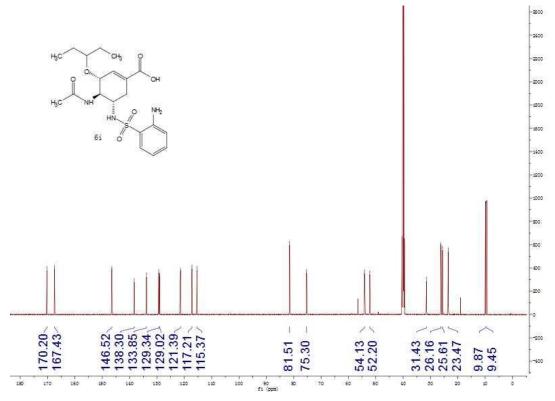


Figure S24. <sup>13</sup>C-NMR of compound 6i.

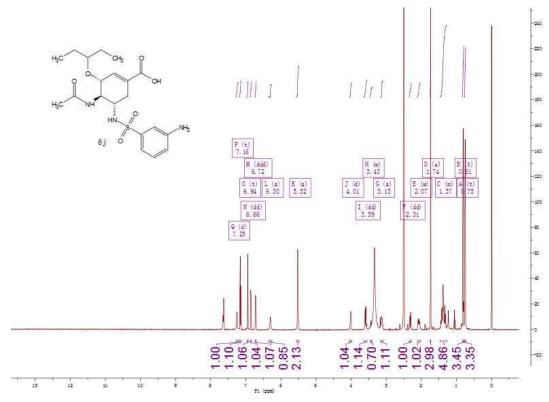


Figure S25. <sup>1</sup>H-NMR of compound 6j.

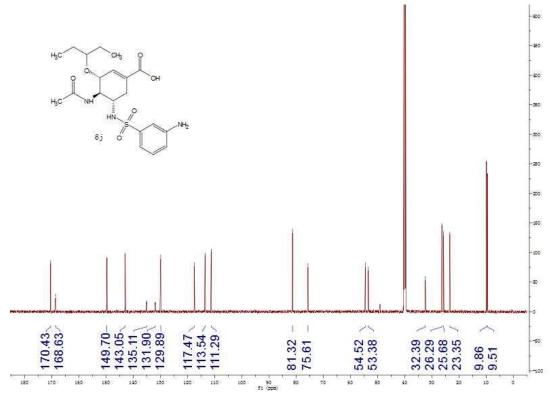


Figure S26. <sup>13</sup>C-NMR of compound 6j.

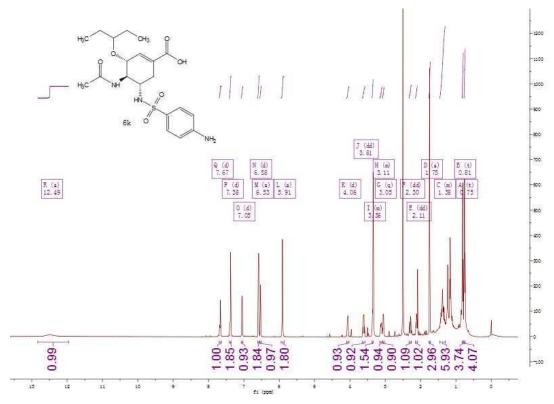


Figure S27. <sup>1</sup>H-NMR of compound 6k.

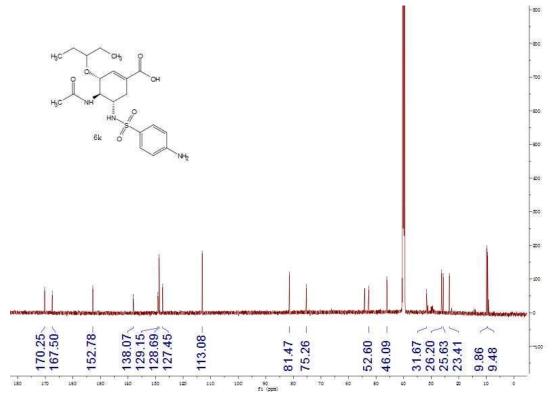


Figure S28. <sup>13</sup>C-NMR of compound **6k**.