SUPPLEMENTARY MATERIAL

Synthesis and structure anti-inflammatory activity relationships studies of andrographolide derivatives

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Andrographolide is a main bioactive diterpene lactone in \textit{A. paniculata} with anti-inflammatory activity. In this study, a series of andrographolide derivatives were synthesized and evaluated for their structure-anti-inflammatory activity relationships \textit{in vivo}. Among all compounds, isoandrographolide and 14-deoxyandrographolide showed stronger anti-inflammatory activity than andrographolide. The results indicated that the introduction of tetrahydrofuran ring and cyclic olefinic bond plays an important role in enhancing the anti-inflammatory activity of andrographolide derivatives. isoandrographolide and 14-deoxyandrographolide are potent inhibitor of inflammation.

**Keywords:** andrographolide derivatives; anti-inflammatory activity; egg white-induced rat paw edema model
Figure S1. MS of compound 1

Figure S2. HNMR of compound 1
Figure S3. MS of compound 1a

Figure S4. HNMR of compound 1a
Figure S5. MS of compound 1b

Figure S6. HNMR of compound 1b
Figure S7. HNMR of compound 1c

Figure S8. MS of compound 2
Figure S9. HNMR of compound 2

Figure S10. MS of compound 2a
Figure S11. HNMR of compound 2a

Figure S12. MS of compound 2b
Figure S13. HNMR of compound 2b

Figure S14. MS of compound 2c
Figure S15. HNMR of compound 2c

Figure S16. MS of compound 3
Figure S17. HNMR of compound 3

Figure S18. MS of compound 3a
Figure S19. HNMR of compound 3a

Figure S20. MS of compound 3b
Figure S21. HNMR of compound 3b

Figure S22. MS of compound 3c
Figure S23. HNMR of compound 3e

Figure S24. MS of compound 3d
Figure S25. HNMR of compound 3d

Figure S26. MS of compound 4
Figure S27. HNMR of compound 4

Figure S28. MS of compound 4a
Figure S29. HNMR of compound 4a