

Chemical Synthesis of 20S-hydroxyvitamin D₃, which shows anti-proliferative activity

Wei Li¹, Jianjun Chen¹, Zorica Janjetovic², Tae-Kang Kim², Trevor Sweatman³, Yan Lu¹, Jordan Zjawiony⁴, Robert C Tuckey⁵, Duane Miller¹, Andrzej Slominski²

¹Department of Pharmaceutical Sciences, College of Pharmacy, ²Department of Pathology and Laboratory Medicine, Center for Cancer Research, ³Department of Pharmacology, University of Tennessee Health Science Center, Memphis, TN 38163, USA

⁴Department of Pharmacognosy and Research Institute of Pharmaceutical Sciences, School of Pharmacy, University of Mississippi, University, MS 38677, USA

⁵School of Biomedical, Biomolecular and Chemical Sciences, University of Western Australia, Crawley, WA, Australia

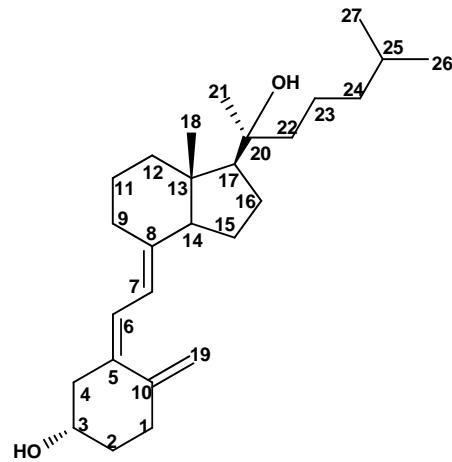
Address for all correspondence and reprint requests to:

Wei Li, PhD
Department of Pharmaceutical Sciences
University of Tennessee Health Science Center
847 Monroe Avenue, room 327
Memphis, TN 38163
Tel: (901) 448-7532
Fax: (901) 448-6828
E-mail: wli@uthsc.edu

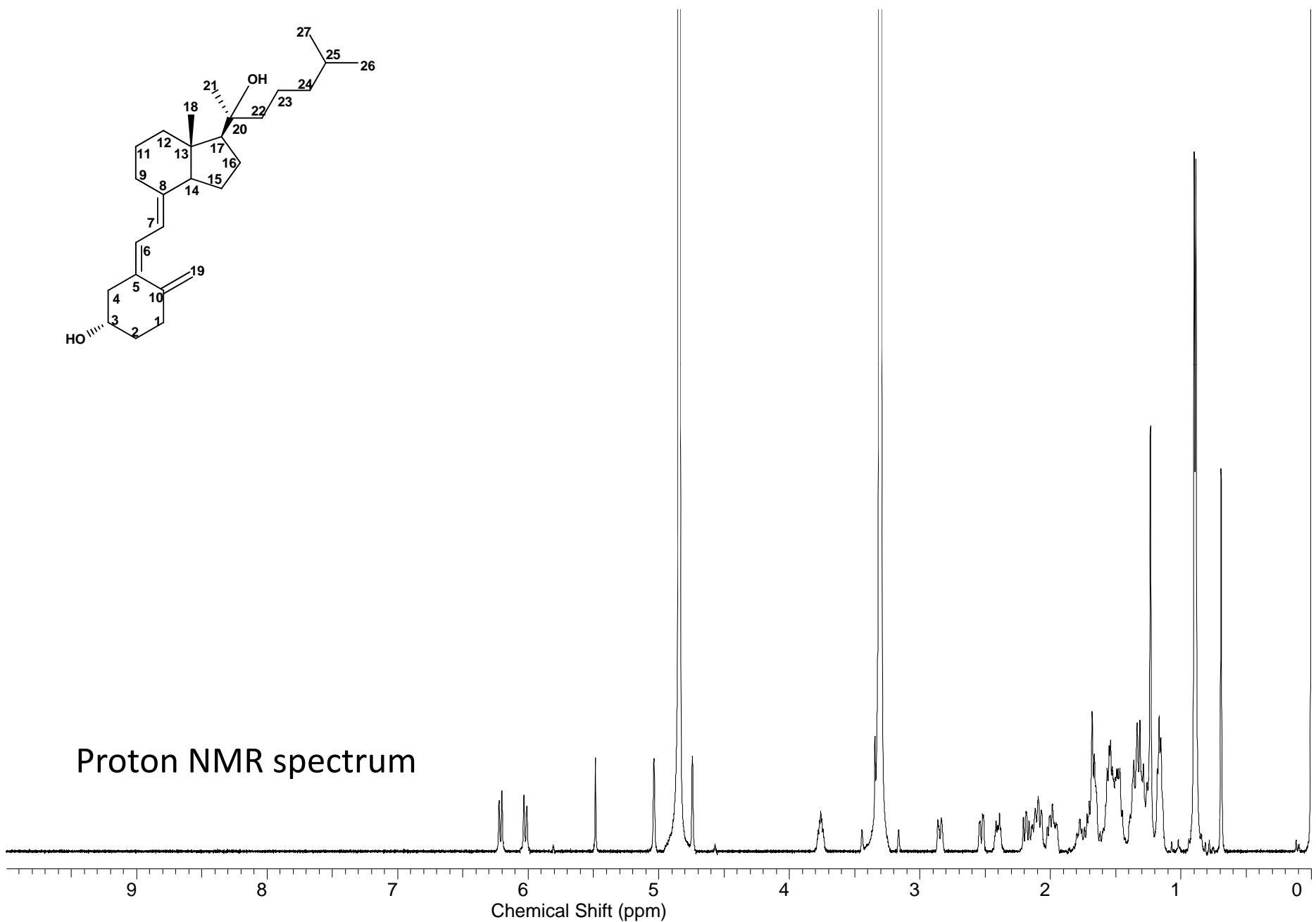
Supplementary materials:

¹H 1D, ¹H-¹H 2D, and ¹H-¹³C 2D NMR spectra collected and used for full NMR shift assignments for 20S-(OH)D₃ and 20S-(OH)-7DHC are shown in these supplementary materials. All spectra were acquired on a Varian Inova-500 MHz NMR instrument, and spectra were processed with either VNMR 6.1C or ACD Labs 9.0.

20S-(OH)D₃

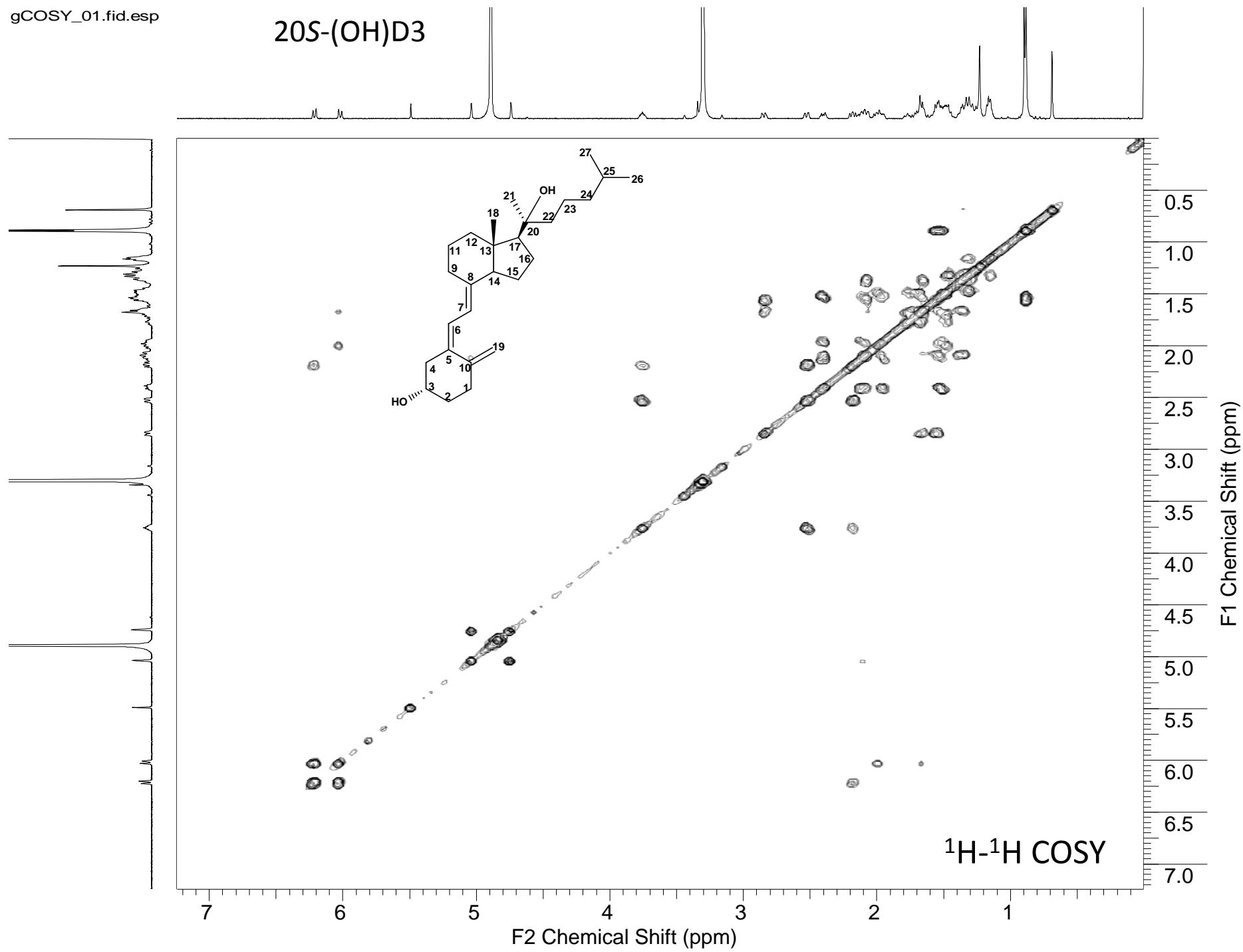


Proton NMR spectrum



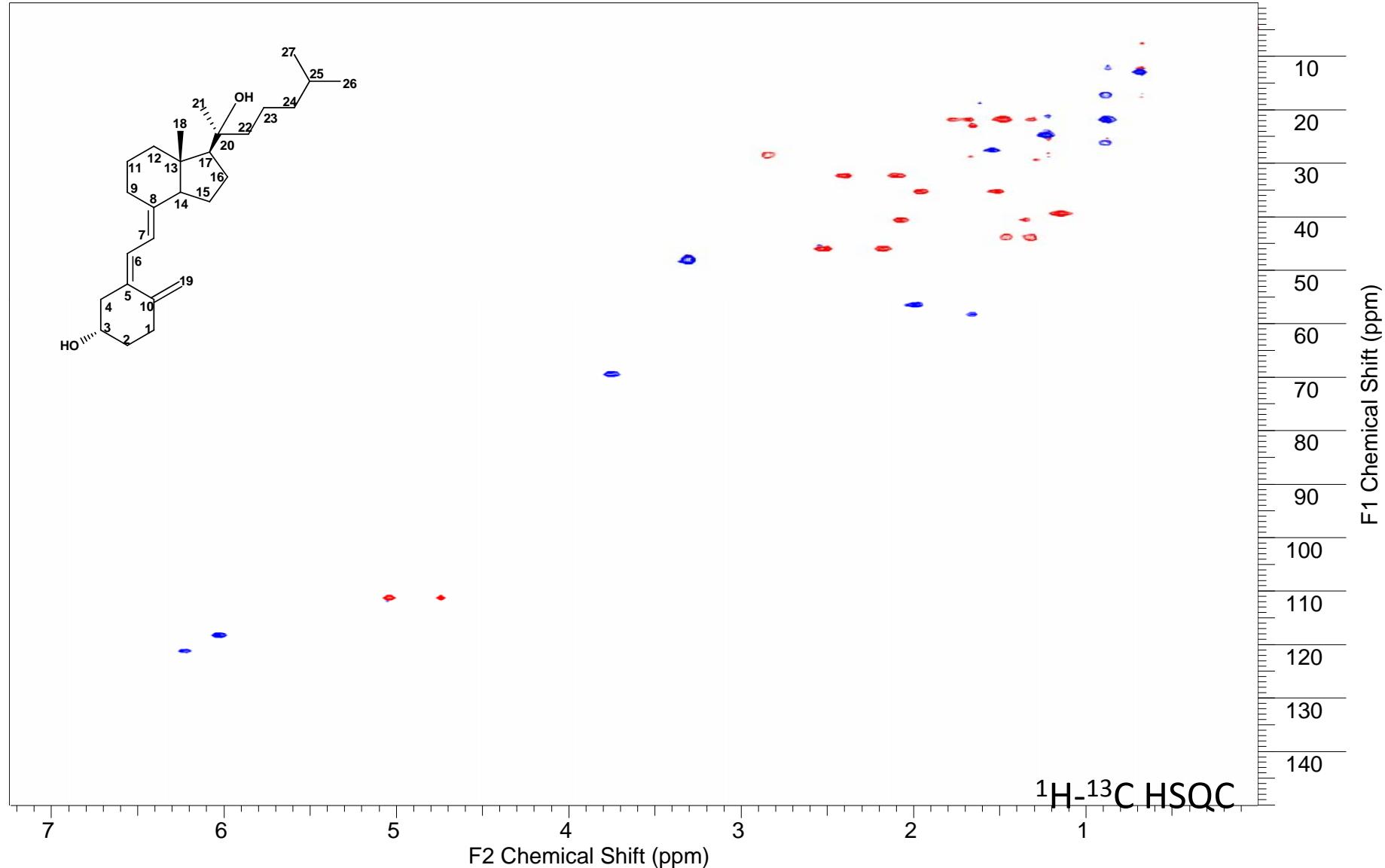
gCOSY_01.fid.esp

20S-(OH)D₃



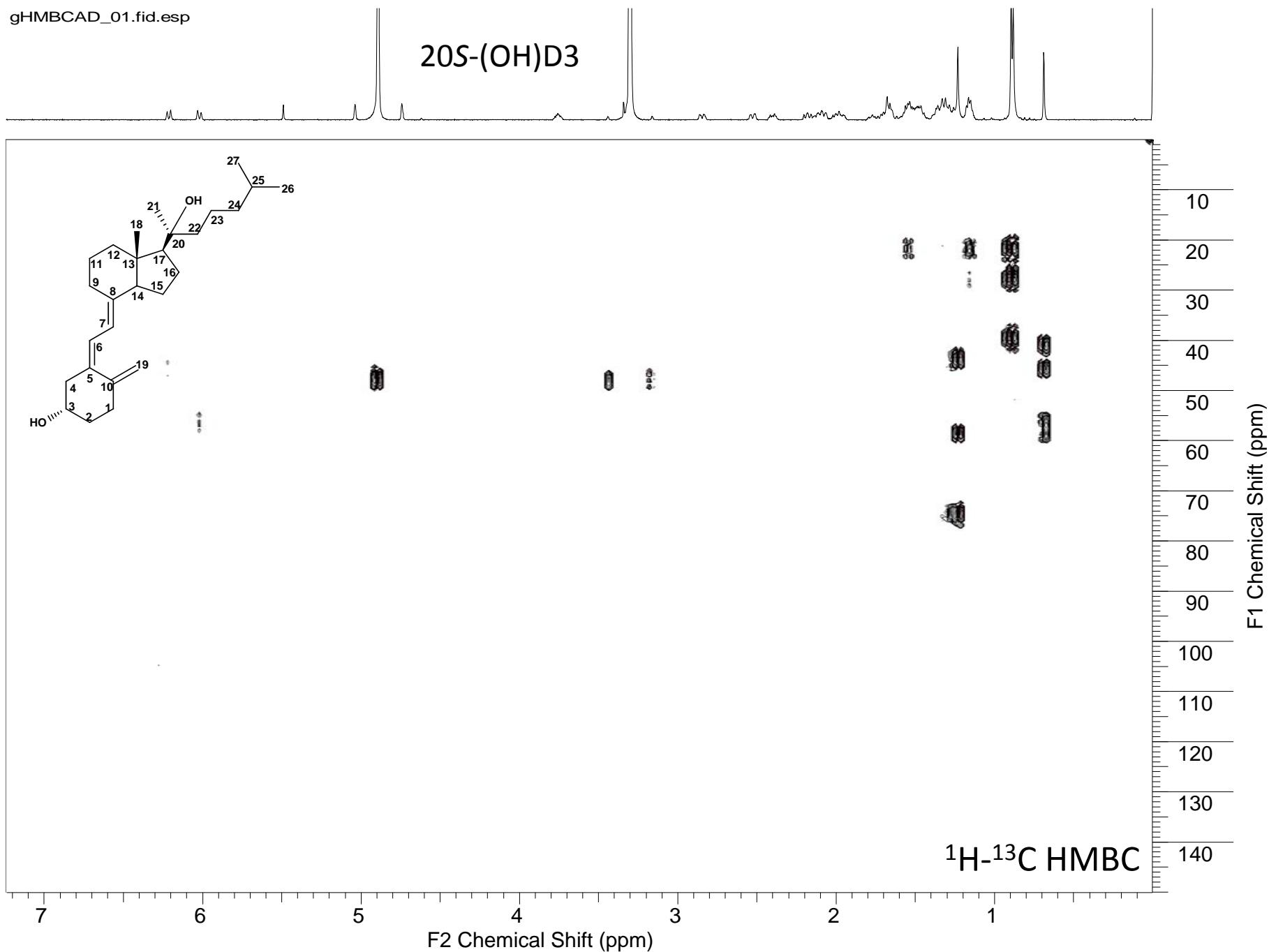
gHSQCAD_01.fid.esp

20S-(OH)D₃



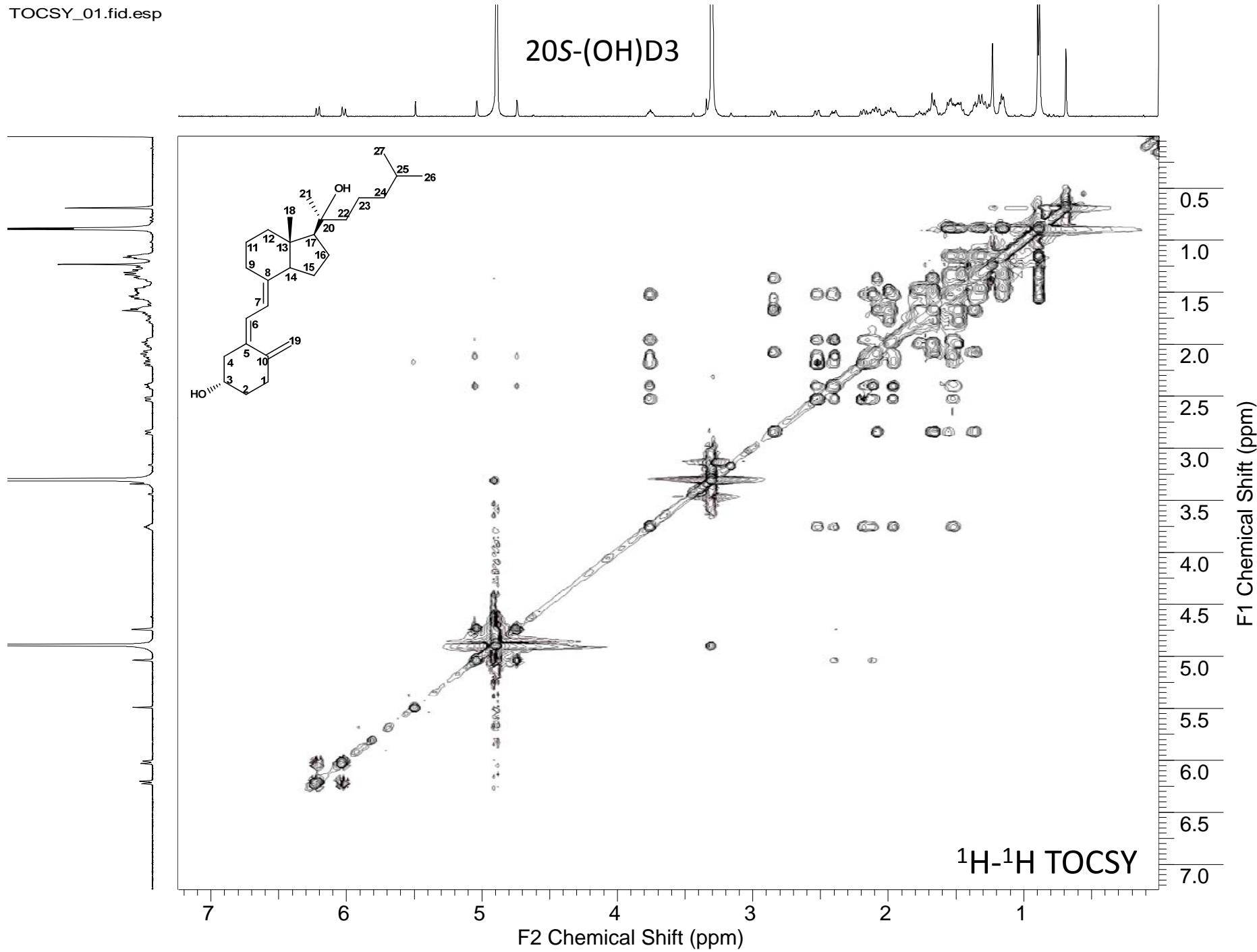
gHMBCAD_01.fid.esp

20S-(OH)D₃

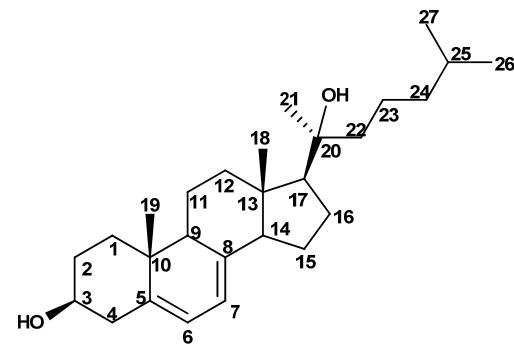


TOCSY_01.fid.esp

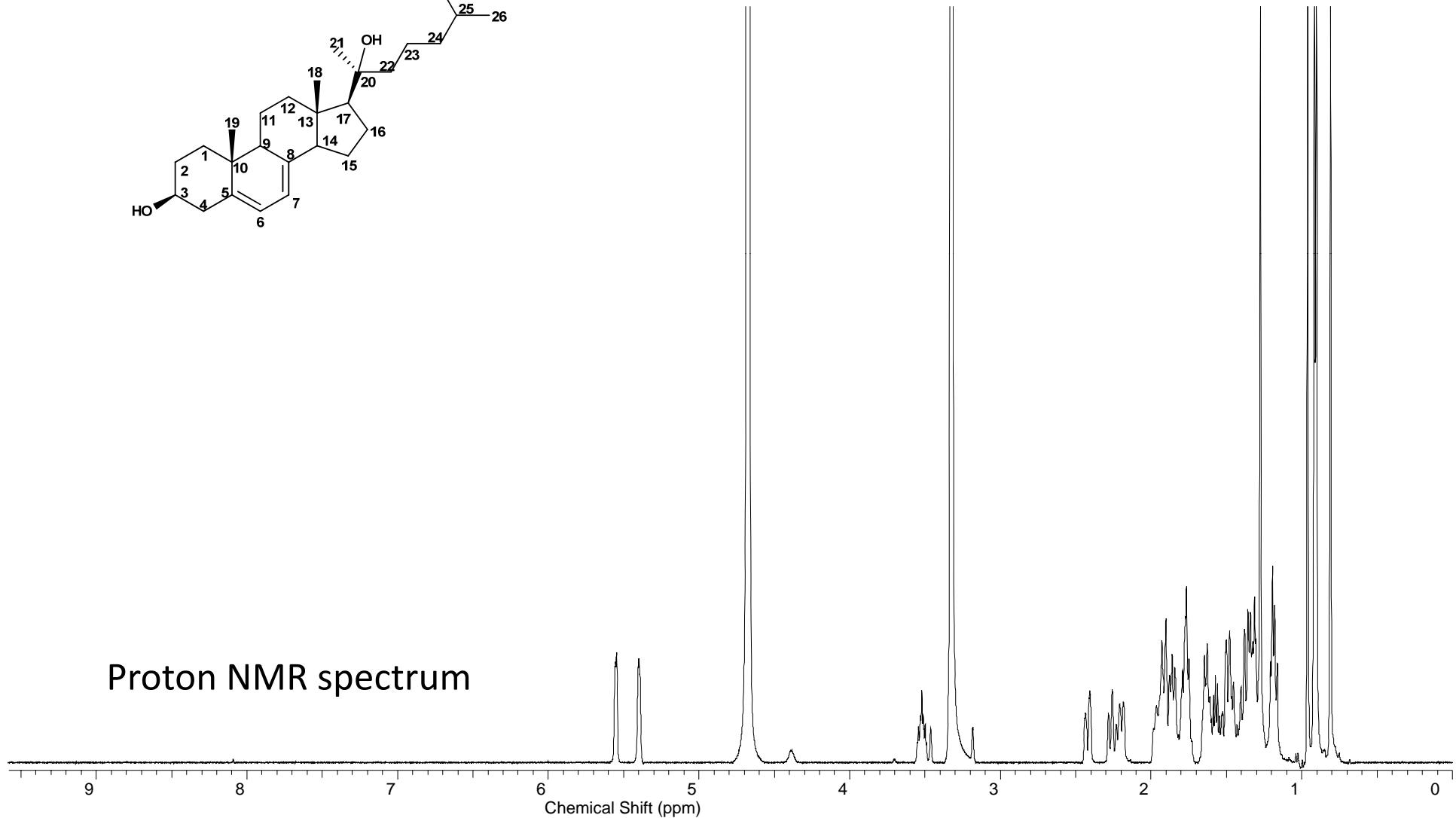
20S-(OH)D₃

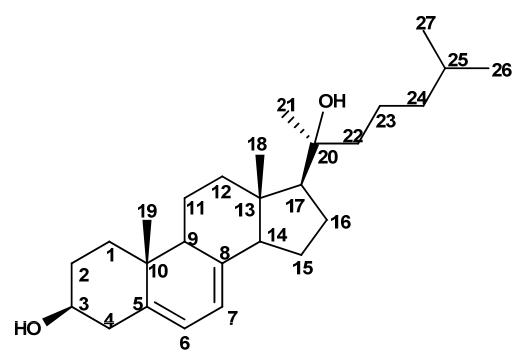


20S-(OH)-7DHC

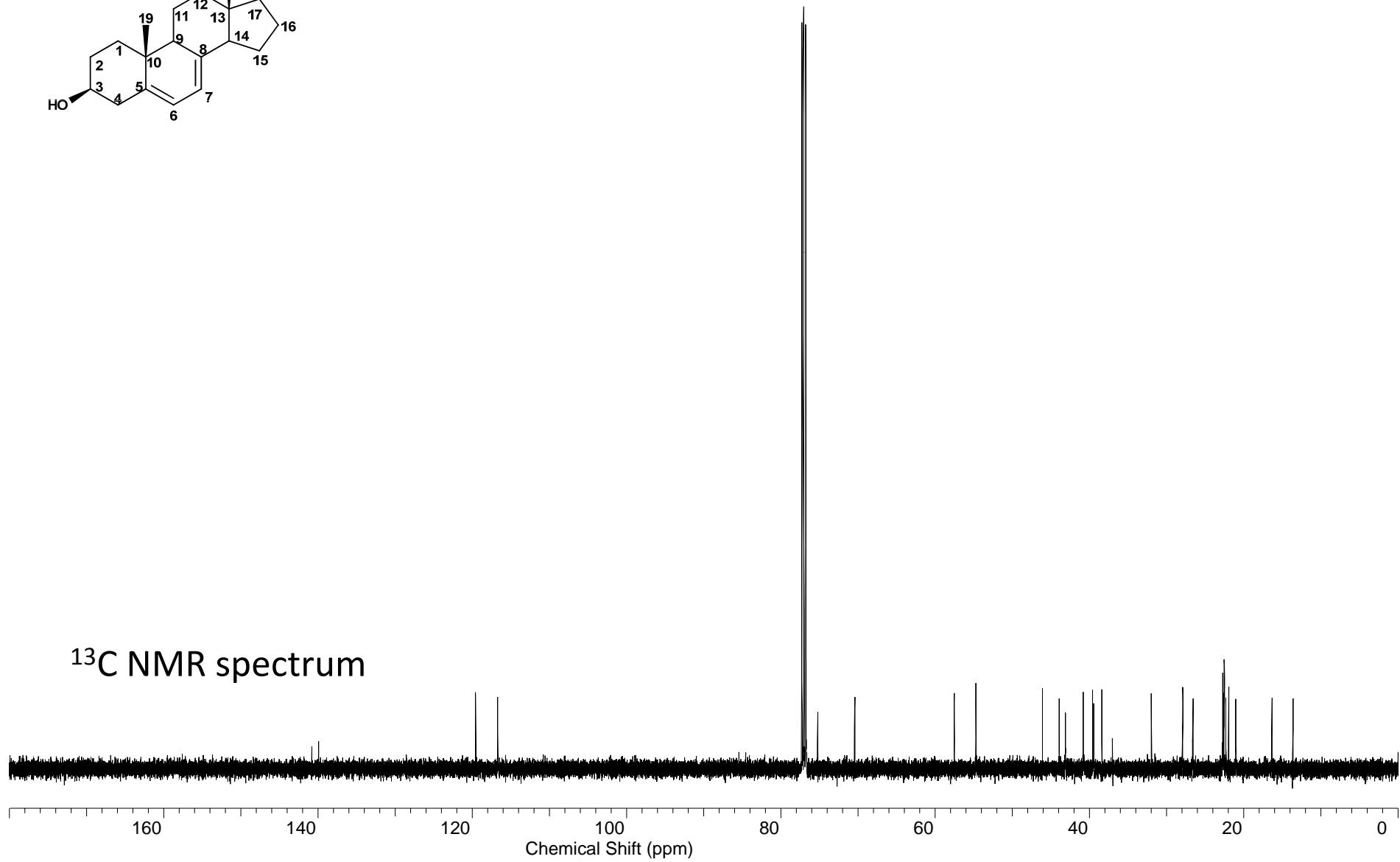


Proton NMR spectrum



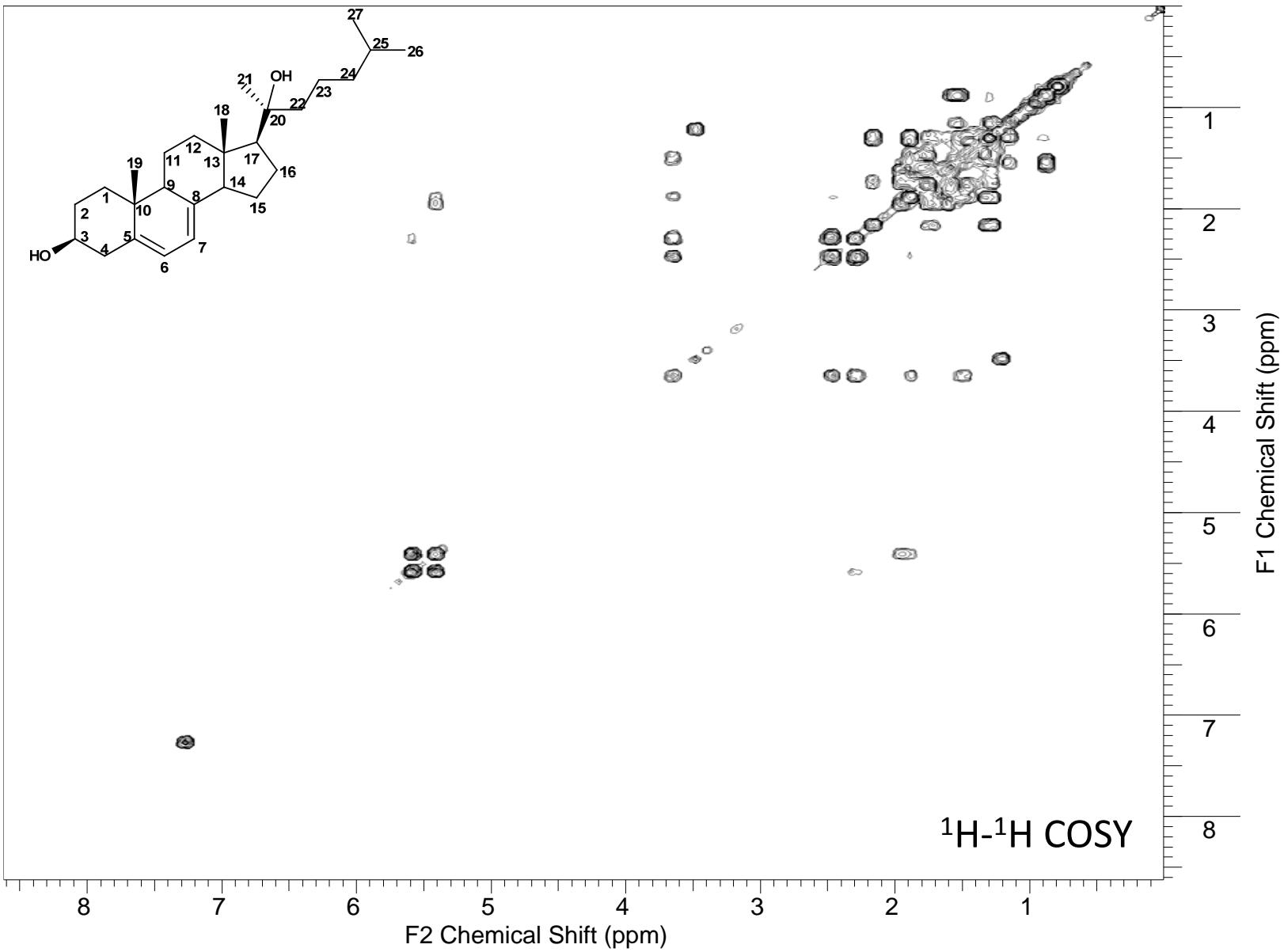
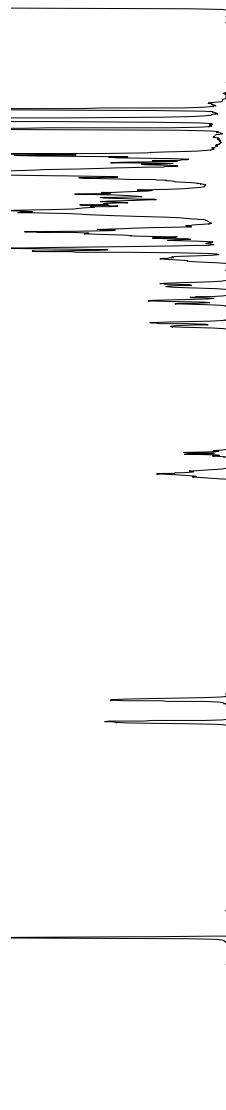


20*S*-(OH)-7DHC



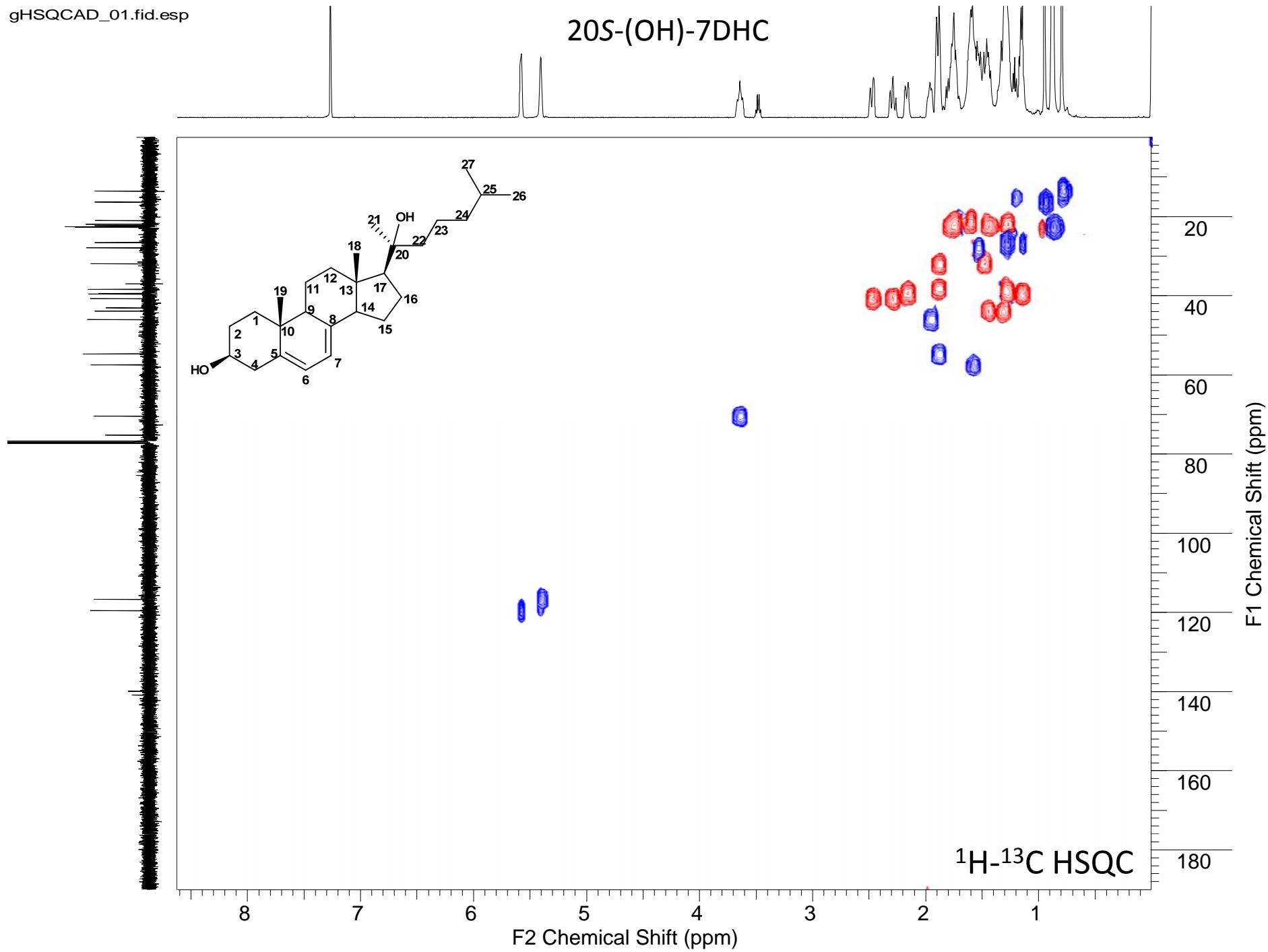
gCOSY_01.fid.esp

20S-(OH)-7DHC



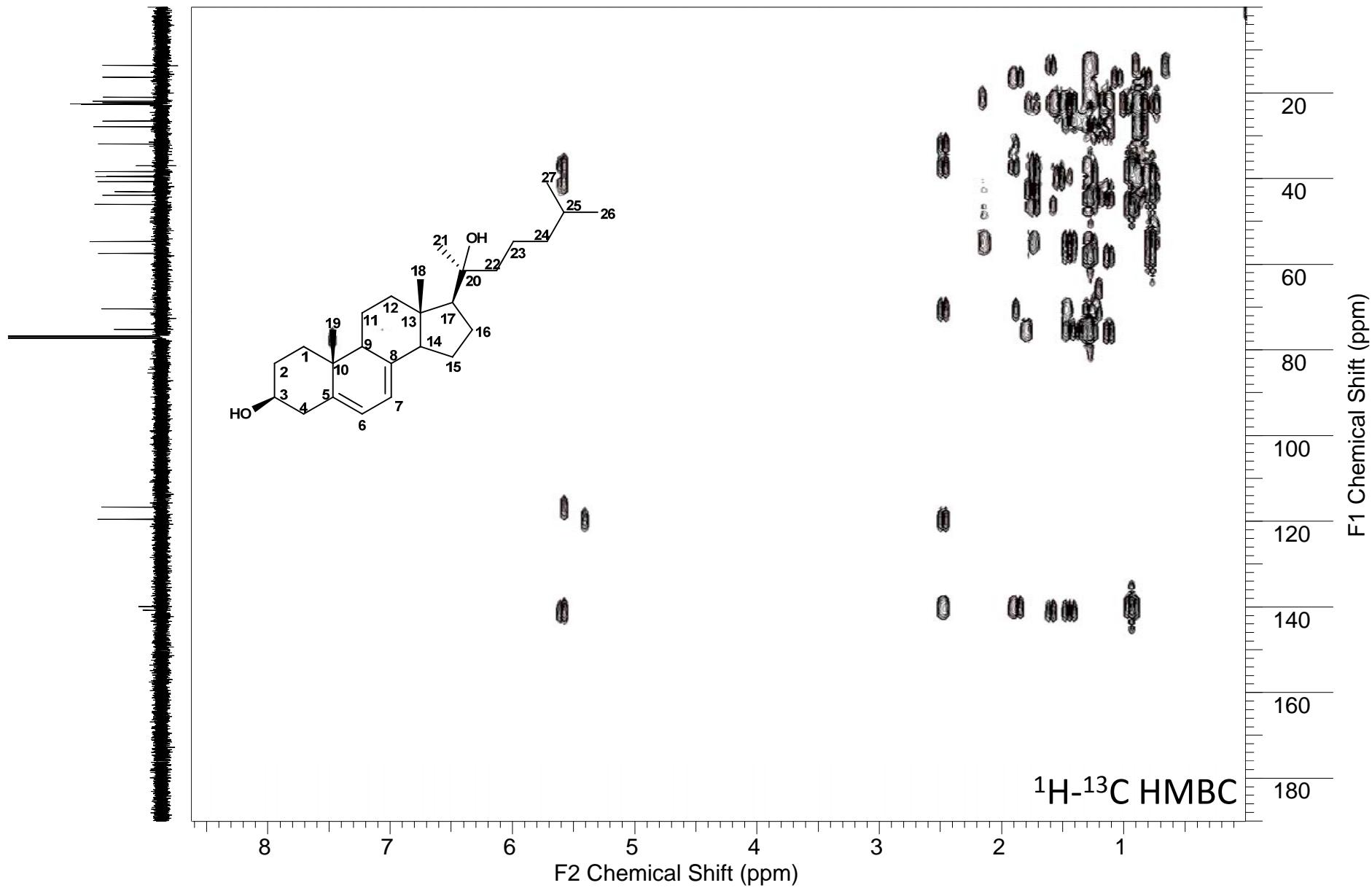
gHSQCAD_01.fid.esp

20S-(OH)-7DHC



gHMBCAD_01.fid.esp

20S-(OH)-7DHC



TOCSY_01.fid.esp

20S-(OH)-7DHC

