

Supporting Information
Org. Commun. 11:1 (2018) 53-61

**Synthesis of natural phenylpropanoid esters via conventional
chemical reactions**

**Flávio Valadares P. Borges¹, Roberto Mioso^{2*}, Luiz André A. Silva¹, José
Maria Barbosa-Filho¹, Gabrielly Diniz Duarte³ and Luis Cezar Rodrigues⁴**

¹ Post-Graduate Program in Natural Products and Bioactives, Federal University of Paraíba, João
Pessoa, 58051-900, PB, Brazil

² Department of Chemistry, University of Las Palmas de Gran Canaria, Las Palmas de Gran Canaria,
35017, Spain

³ Department of Biotechnology, Federal University of Paraíba, João Pessoa, 58051-900, PB, Brazil

⁴ Post-Graduate Program in Development and Technological Innovation in Medicines, Federal
University of Paraíba, João Pessoa, 58051-900, PB, Brazil

Table of Contents	Page
Figure S1. ¹³ C-NMR (δ, 50.30 MHz, CDCl ₃) – (–)-Bornyl benzoate (5)	2
Figure S2. ¹ H-NMR (δ, 200 MHz; CDCl ₃) – (–)-Bornyl benzoate (5)	3
Figure S3. ¹³ C-NMR (δ, 50.30 MHz, CDCl ₃) – (–)-Bornyl salicylate (4)	4
Figure S4. ¹ H-NMR (δ, 200 MHz; CDCl ₃) – (–)-Bornyl salicylate (4)	5
Figure S5. ¹³ C-NMR (δ, 50.30 MHz, CDCl ₃) – (–)-Bornyl <i>trans-p</i> -coumarate (1)	6
Figure S6. ¹ H-NMR (δ, 200 MHz; CDCl ₃) – (–)-Bornyl <i>trans-p</i> -coumarate (1)	7
Figure S7. ¹³ C-NMR (δ, 50.30 MHz, CDCl ₃) – (–)-Bornyl <i>trans</i> -ferulate (7)	8
Figure S8. ¹ H-NMR (δ, 200 MHz; CDCl ₃) – (–)-Bornyl <i>trans</i> -ferulate (7)	9
Figure S9. ¹³ C-NMR (δ, 50.30 MHz, CDCl ₃) – (–)-Bornyl <i>cis</i> -ferulate (6)	10
Figure S10. ¹ H-NMR (δ, 200 MHz; CDCl ₃) – (–)-Bornyl <i>cis</i> -ferulate (6)	11
Figure S11. ¹³ C-NMR (δ, 50.30 MHz, CDCl ₃) – (–)-Bornyl <i>trans</i> -3,4- (methylenedioxy)cinnamate (8)	12
Figure S12. ¹ H-NMR (δ, 200 MHz; CDCl ₃) – (–)-Bornyl <i>trans</i> -3,4- (methylenedioxy)cinnamate (8)	13
Figure S13. ¹³ C-NMR (δ, 50.30 MHz, CDCl ₃)– α -Terpineol chloroacetate	14
Figure S14. ¹ H-NMR (δ, 200 MHz; CDCl ₃) – α -Terpineol chloroacetate	15
Figure S15. ¹³ C-NMR (δ, 50.30 MHz, CDCl ₃) – α -Terpinyl <i>trans</i> -caffeate (3)	16
Figure S16. ¹ H-NMR (δ, 200 MHz; CDCl ₃) – α -Terpinyl <i>trans</i> -caffeate (3)	17

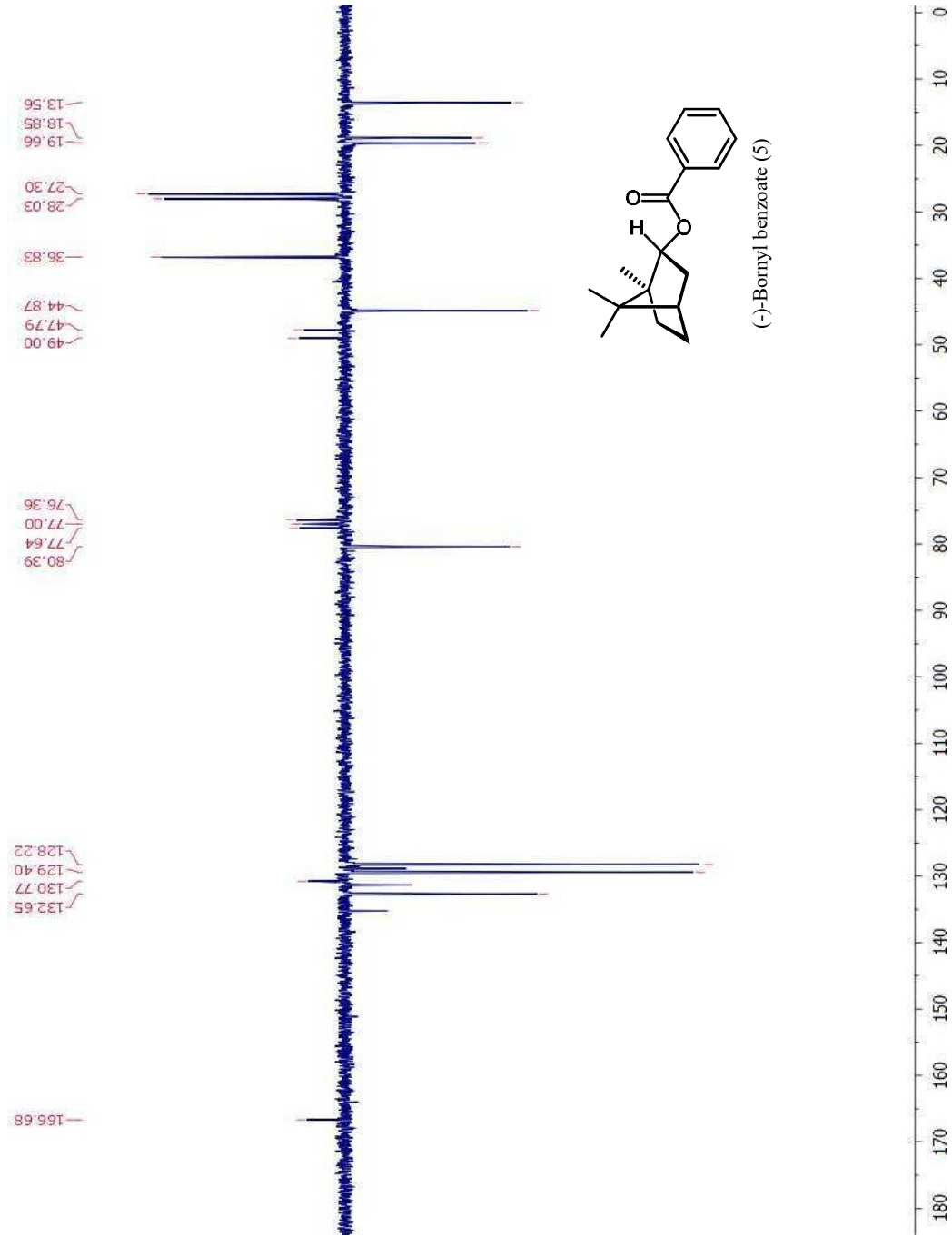


Figure S1. ^{13}C -NMR (δ , 50.30 MHz, CDCl_3) – (-)-Borneyl benzoate (**5**)

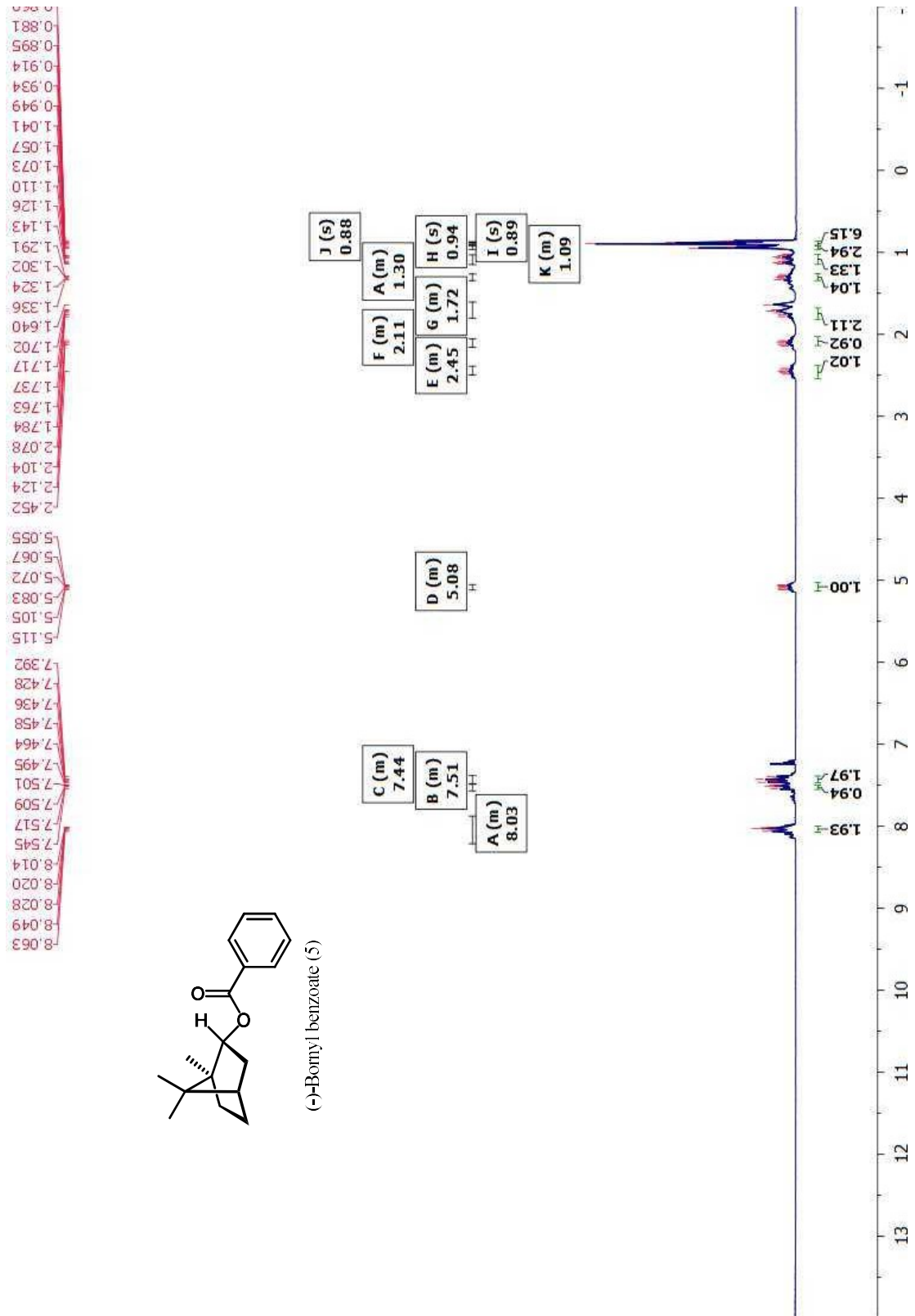


Figure S2. $^1\text{H-NMR}$ (δ , 200 MHz; CDCl_3) – (-)-Bornyl benzoate (5)

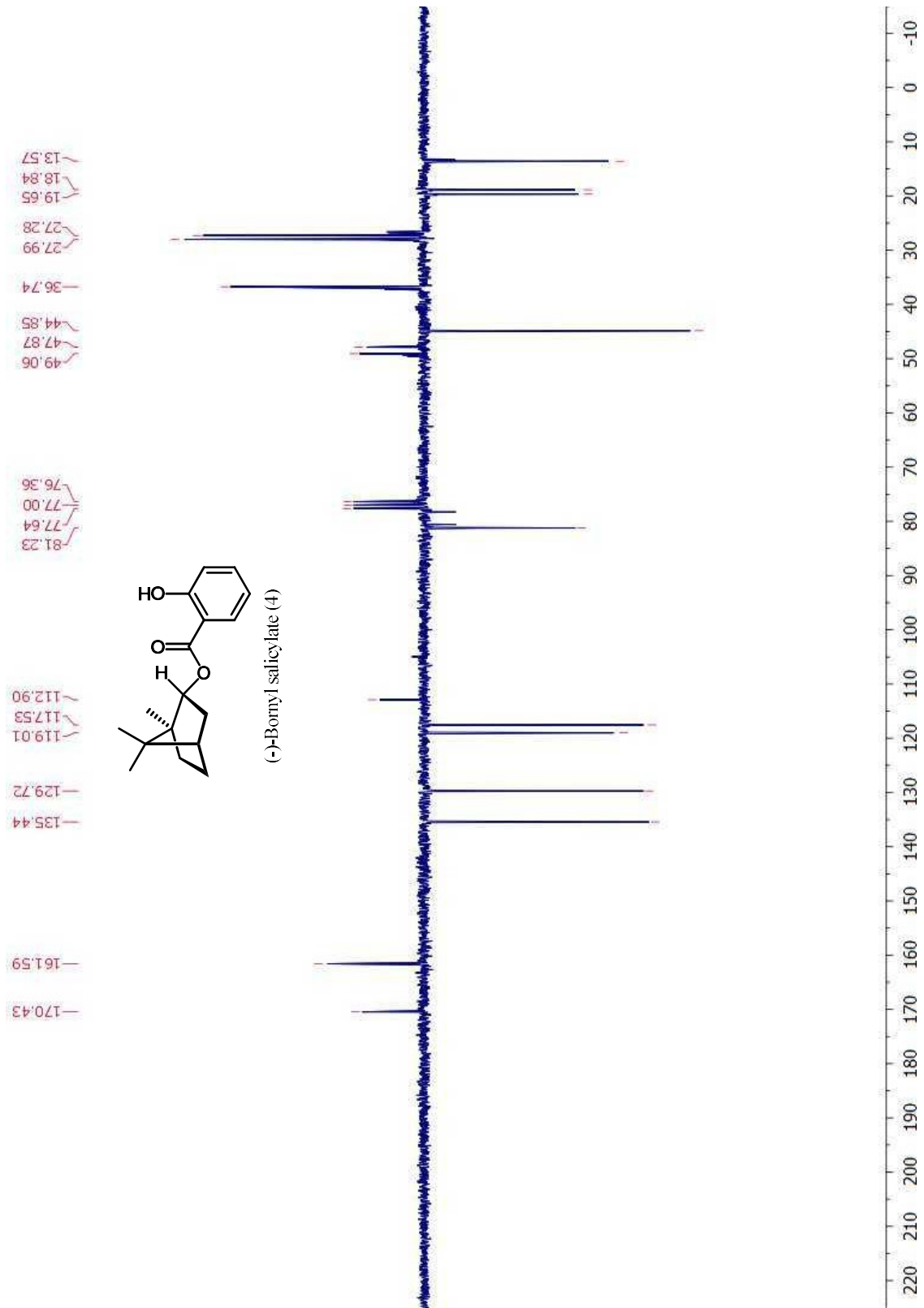


Figure S3. ^{13}C -NMR (δ , 50.30 MHz, CDCl_3) – (-)-Borneyl salicylate (4)

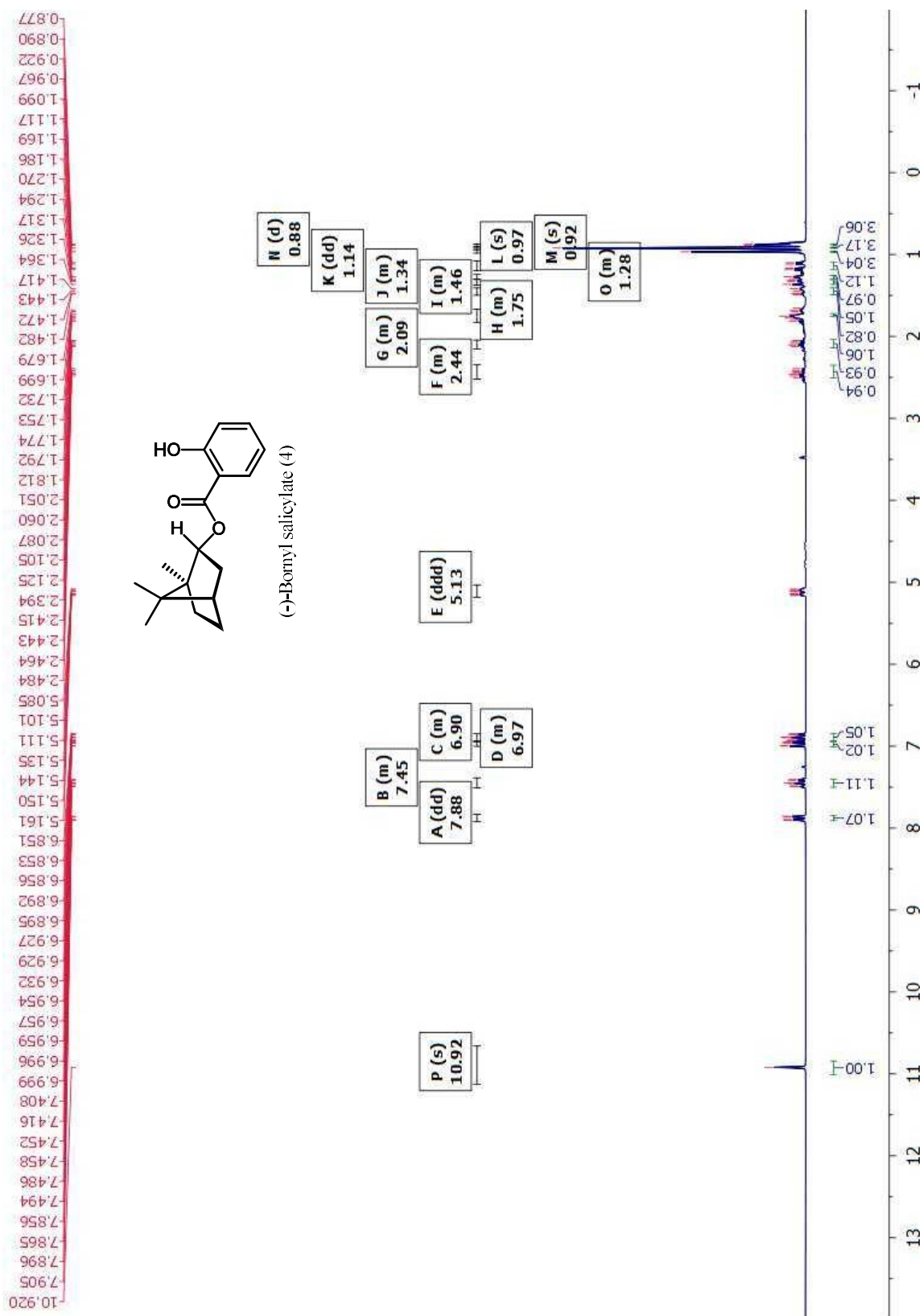


Figure S4. $^1\text{H-NMR}$ (δ , 200 MHz; CDCl_3) – (-)-Bornyl salicylate (4)

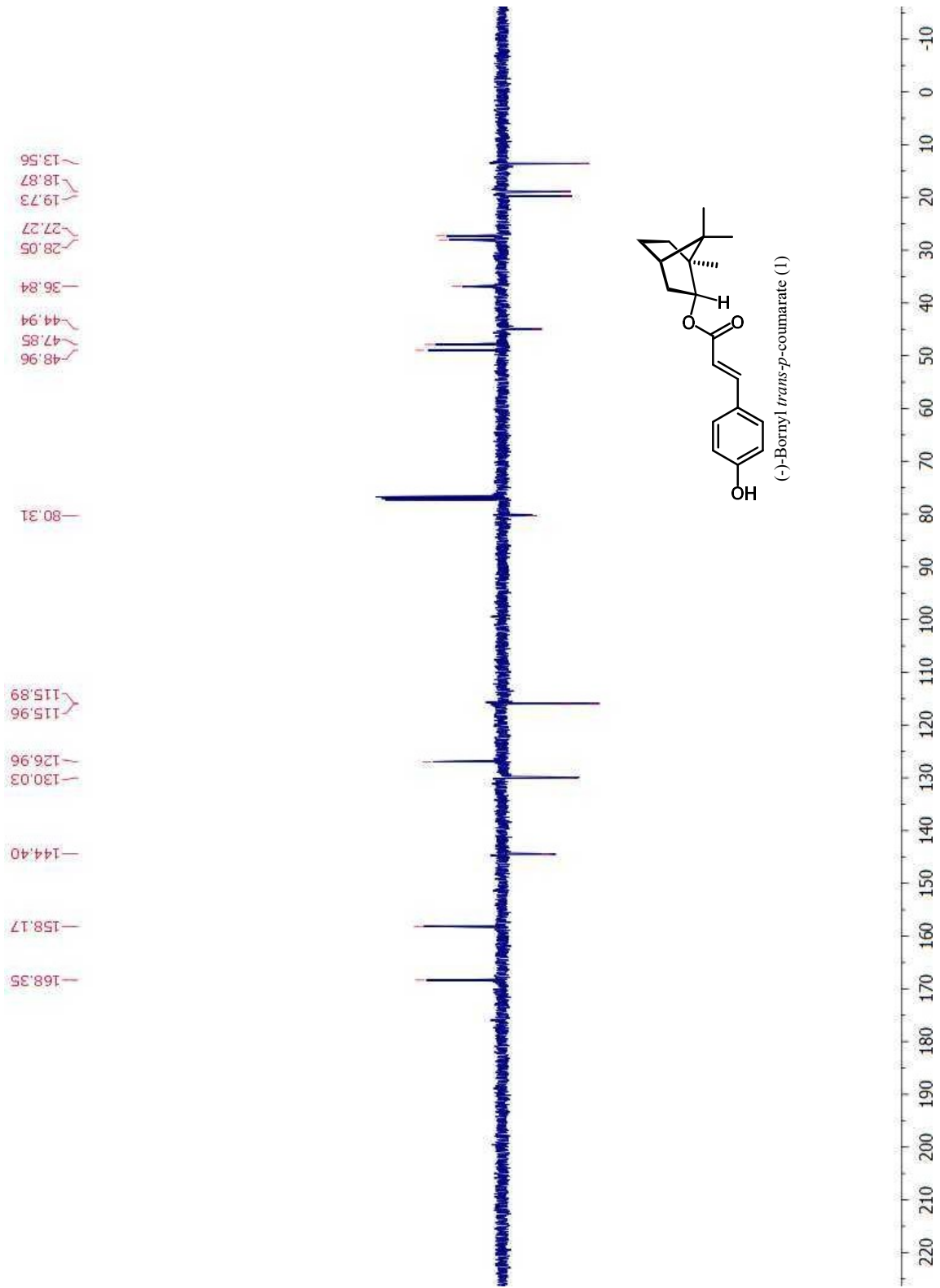


Figure S5. ^{13}C -NMR (δ , 50.30 MHz, CDCl_3) – (-)-Bornyl *trans-p*-coumarate (1)

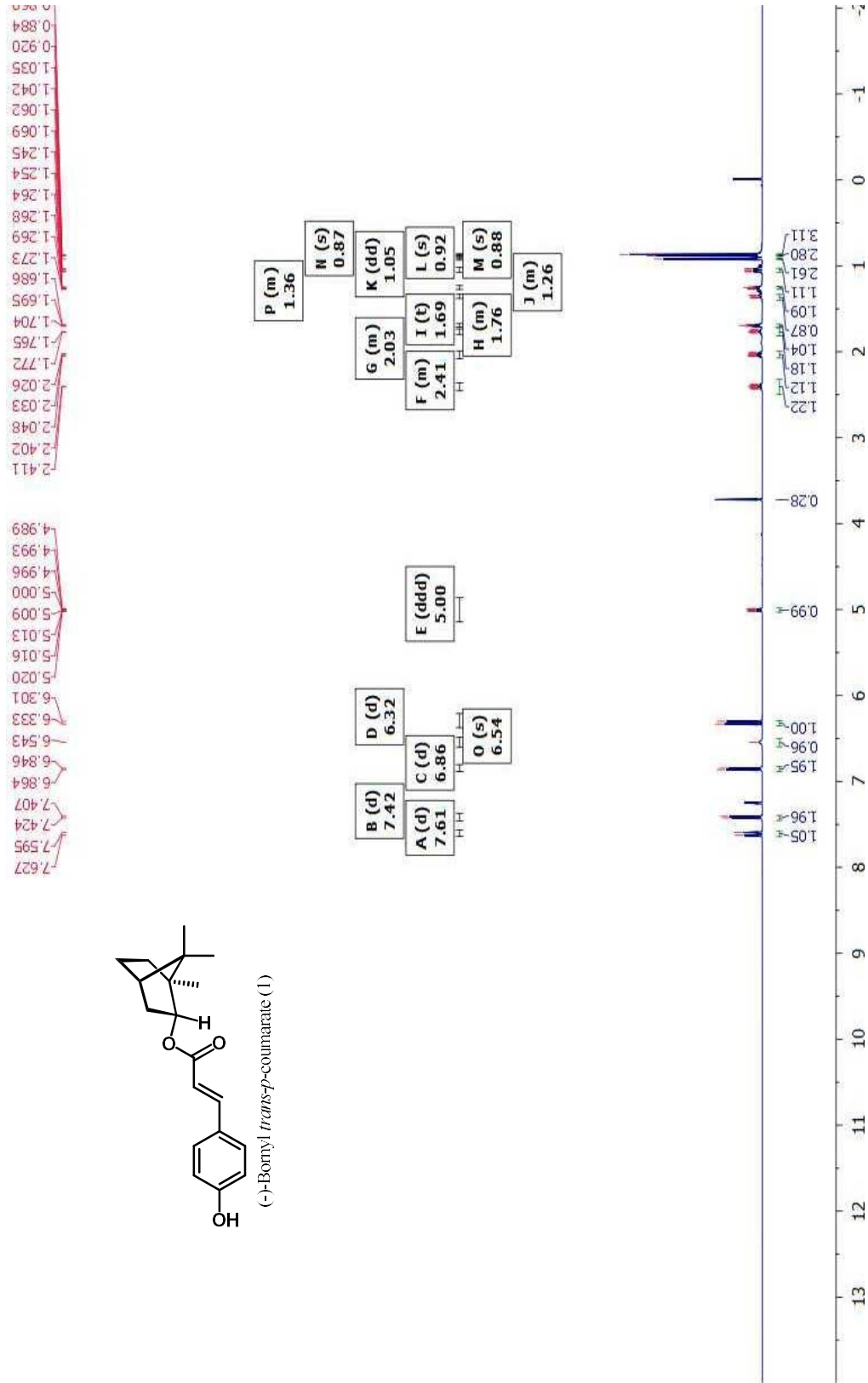


Figure S6. ¹H-NMR (δ, 200 MHz; CDCl₃) – (-)-Bornyl *trans-p*-coumarate (**1**)

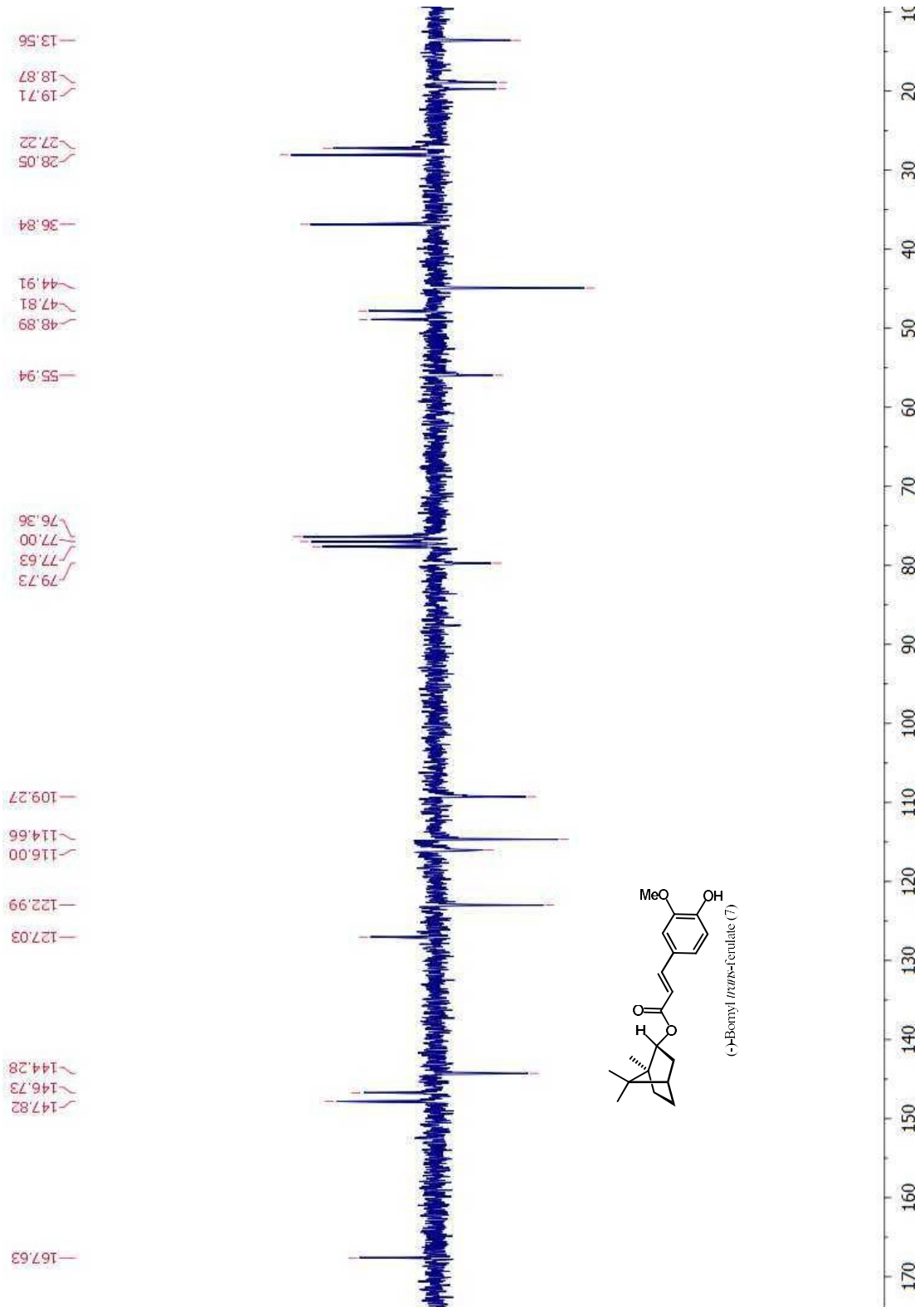


Figure S7. ^{13}C -NMR (δ , 50.30 MHz, CDCl_3) – (-)-Bornyl *trans*-ferulate (7)

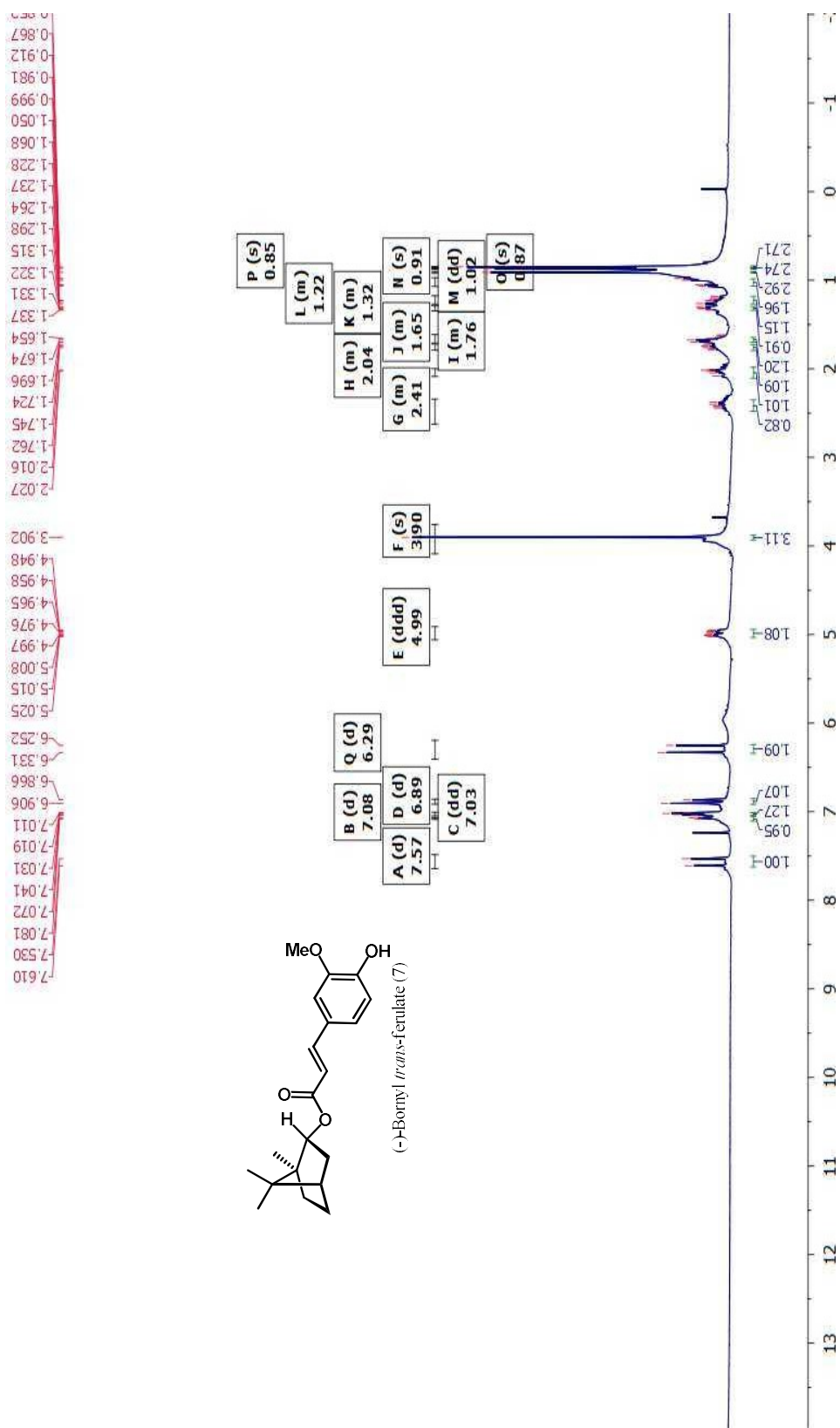


Figure S8. ¹H-NMR (δ, 200 MHz; CDCl₃) – (-)-Bornyl *trans*-ferulate (7)

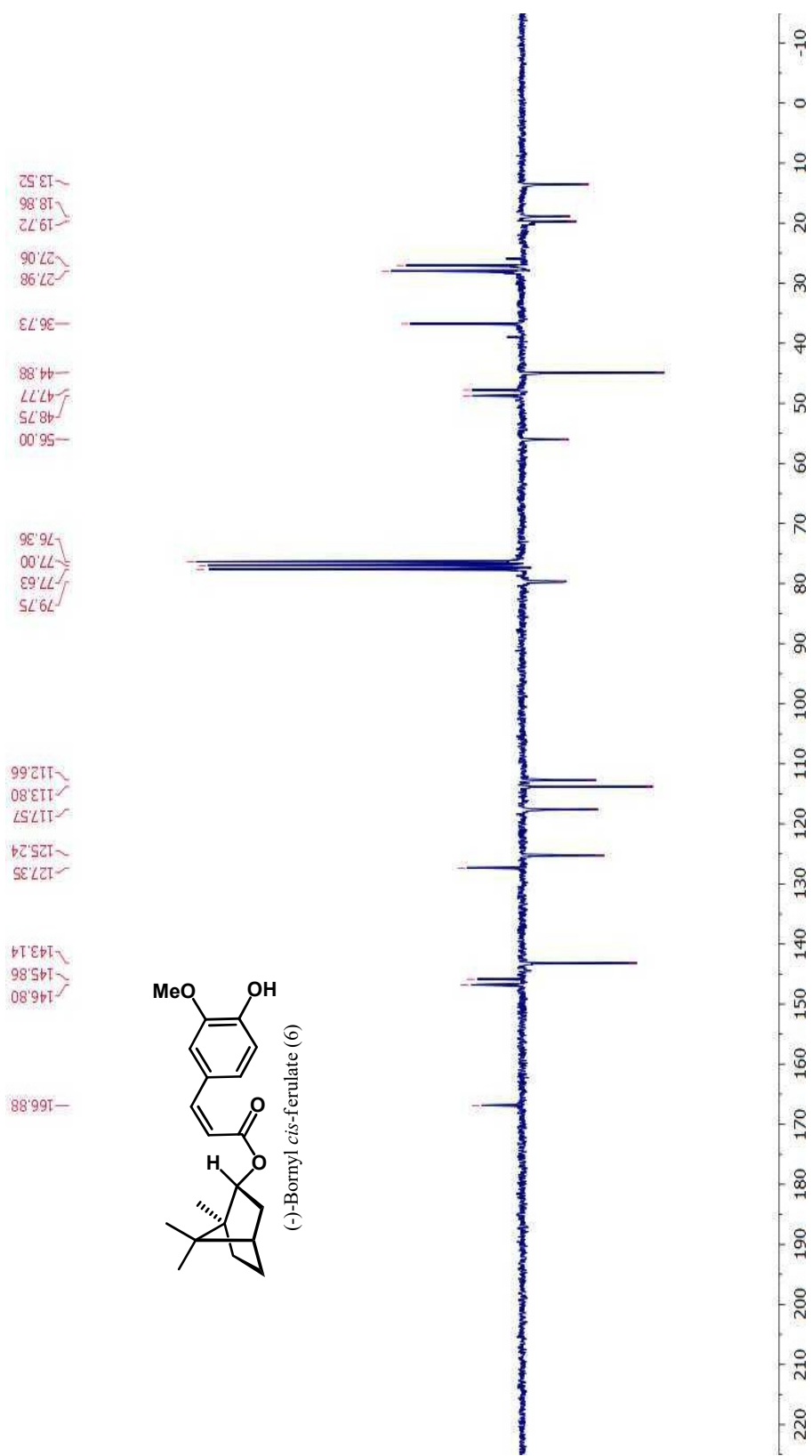


Figure S9. ^{13}C -NMR (δ , 50.30 MHz, CDCl_3) – (-)-Bornyl *cis*-ferulate (**6**)

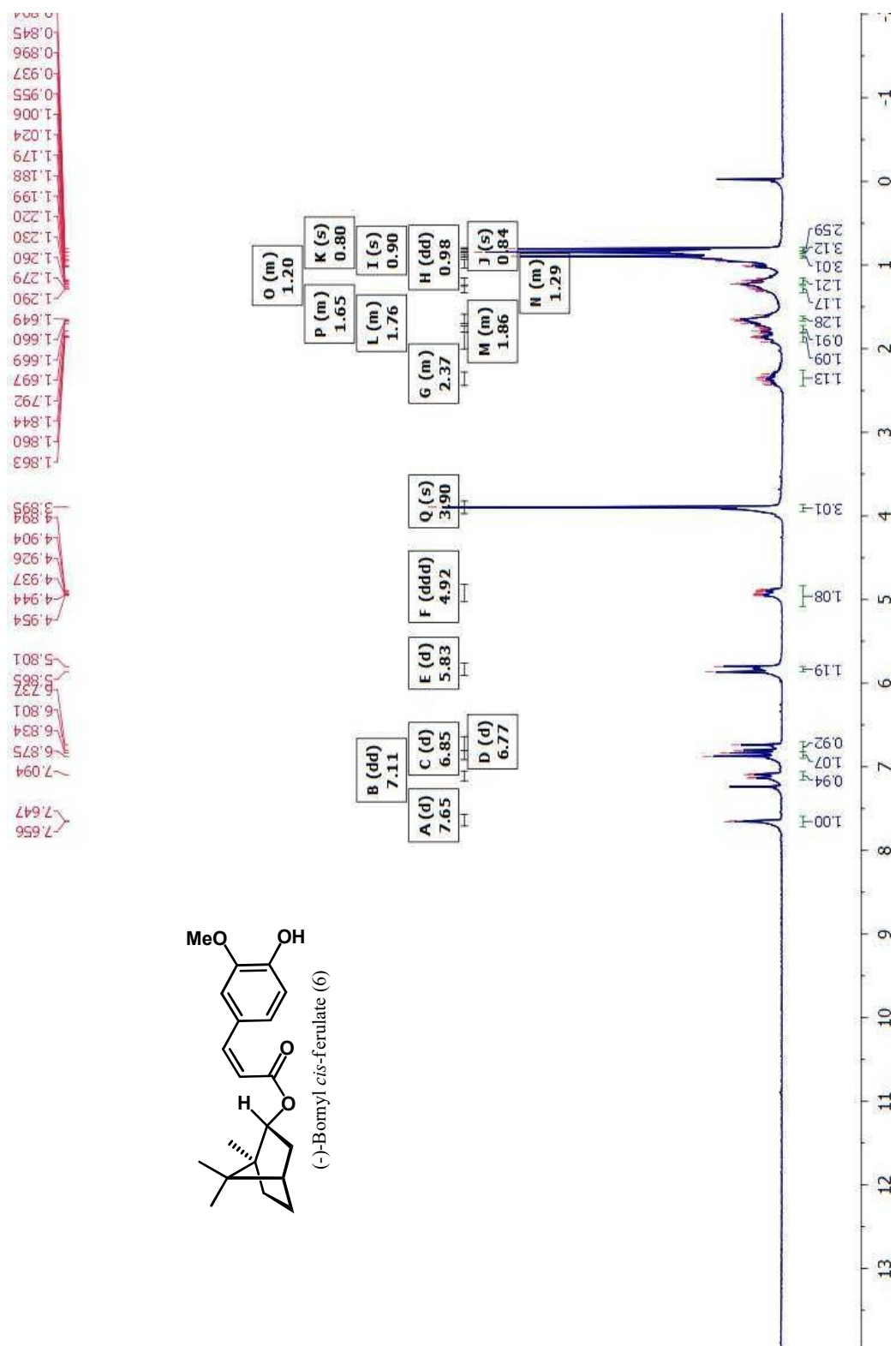


Figure S10. ¹H-NMR (δ, 200 MHz; CDCl₃) – (-)-Bornyl *cis*-ferulate (6)

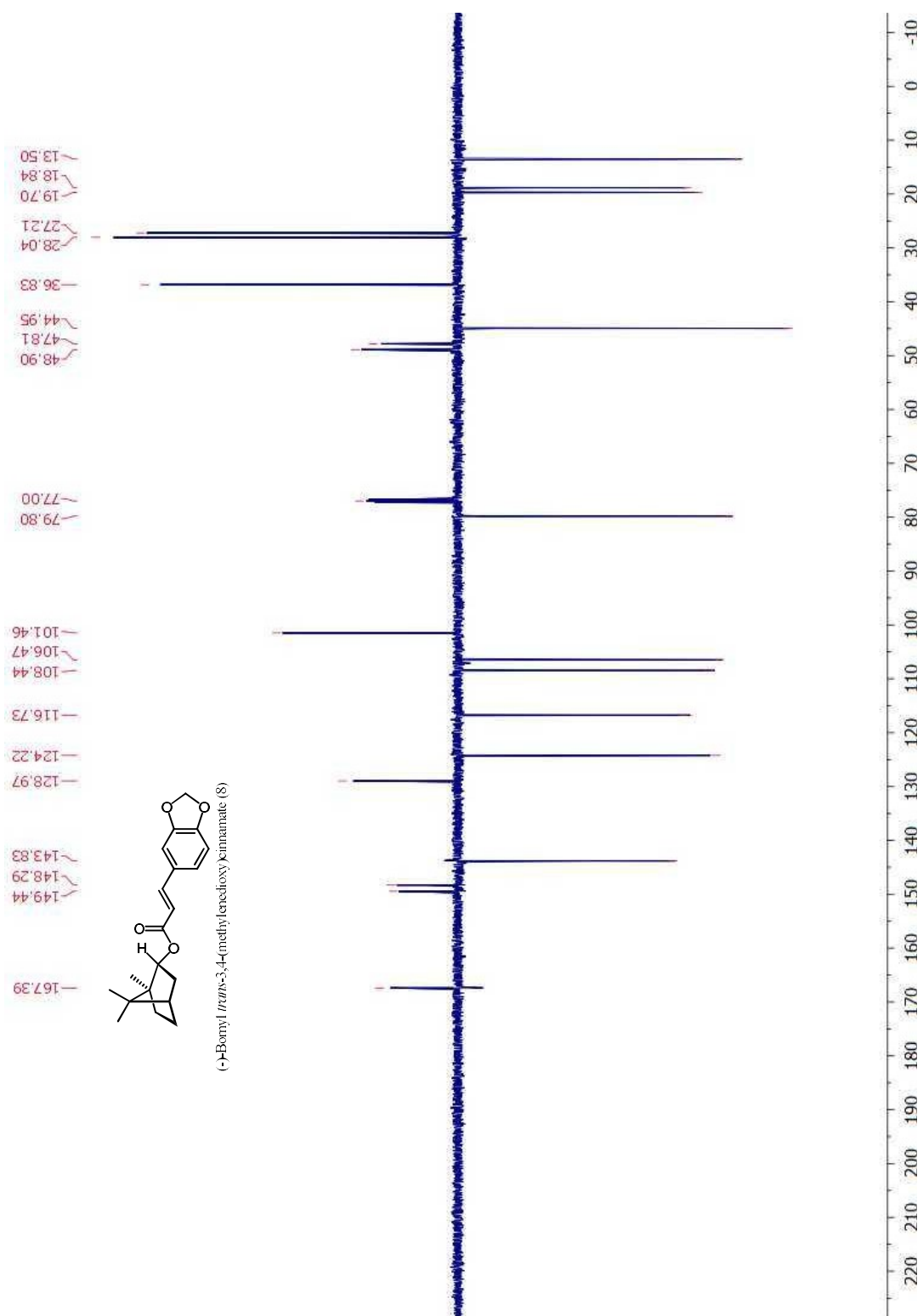


Figure S11. ^{13}C -NMR (δ , 50.30 MHz, CDCl_3) – (+)-Bornyl *trans*-3,4-(methylenedioxy)cinnamate (**8**)

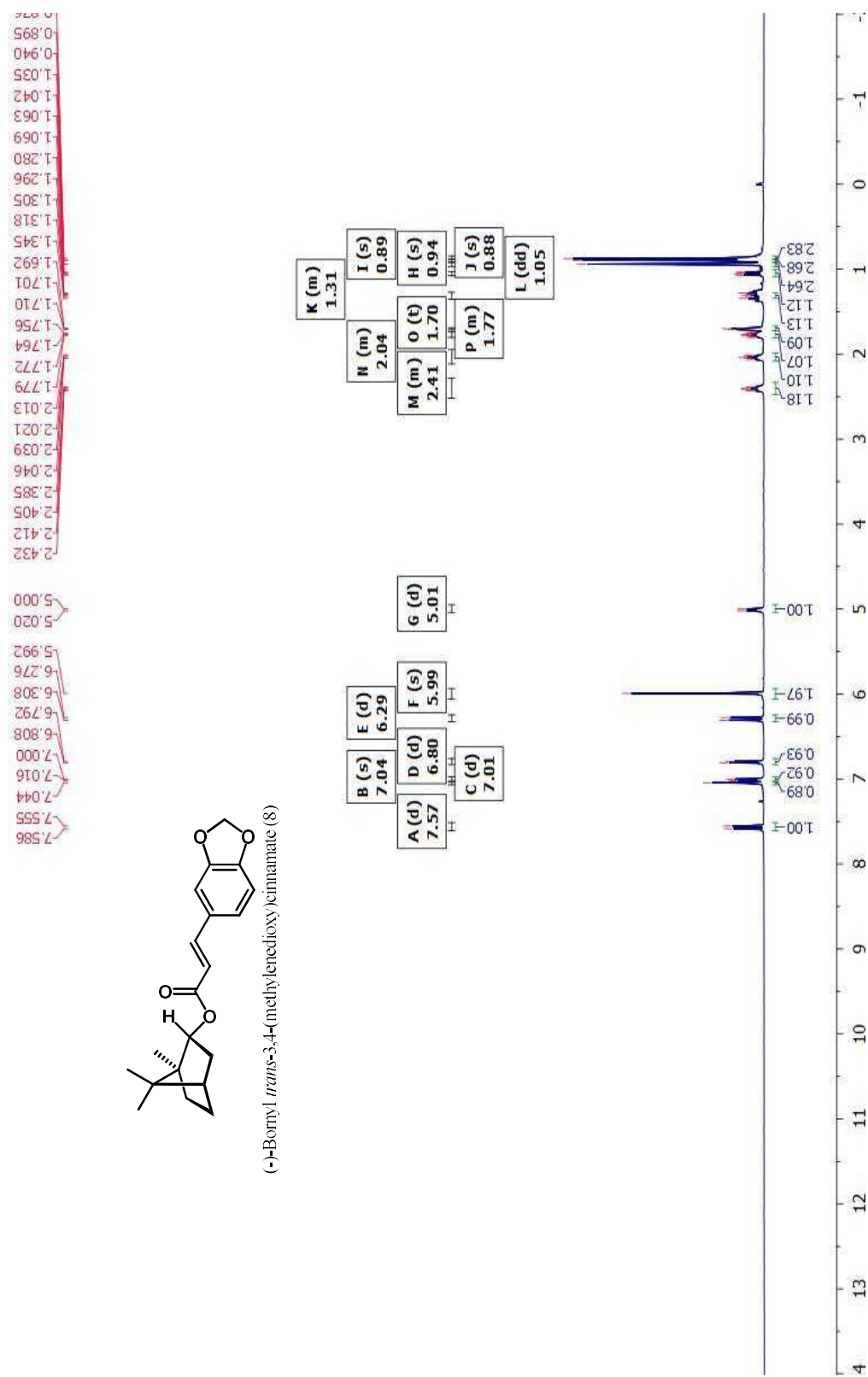


Figure S12. ¹H-NMR (δ, 200 MHz; CDCl₃) – (-)-Bornyl *trans*-3,4-(methylenedioxy)cinnamate (**8**)

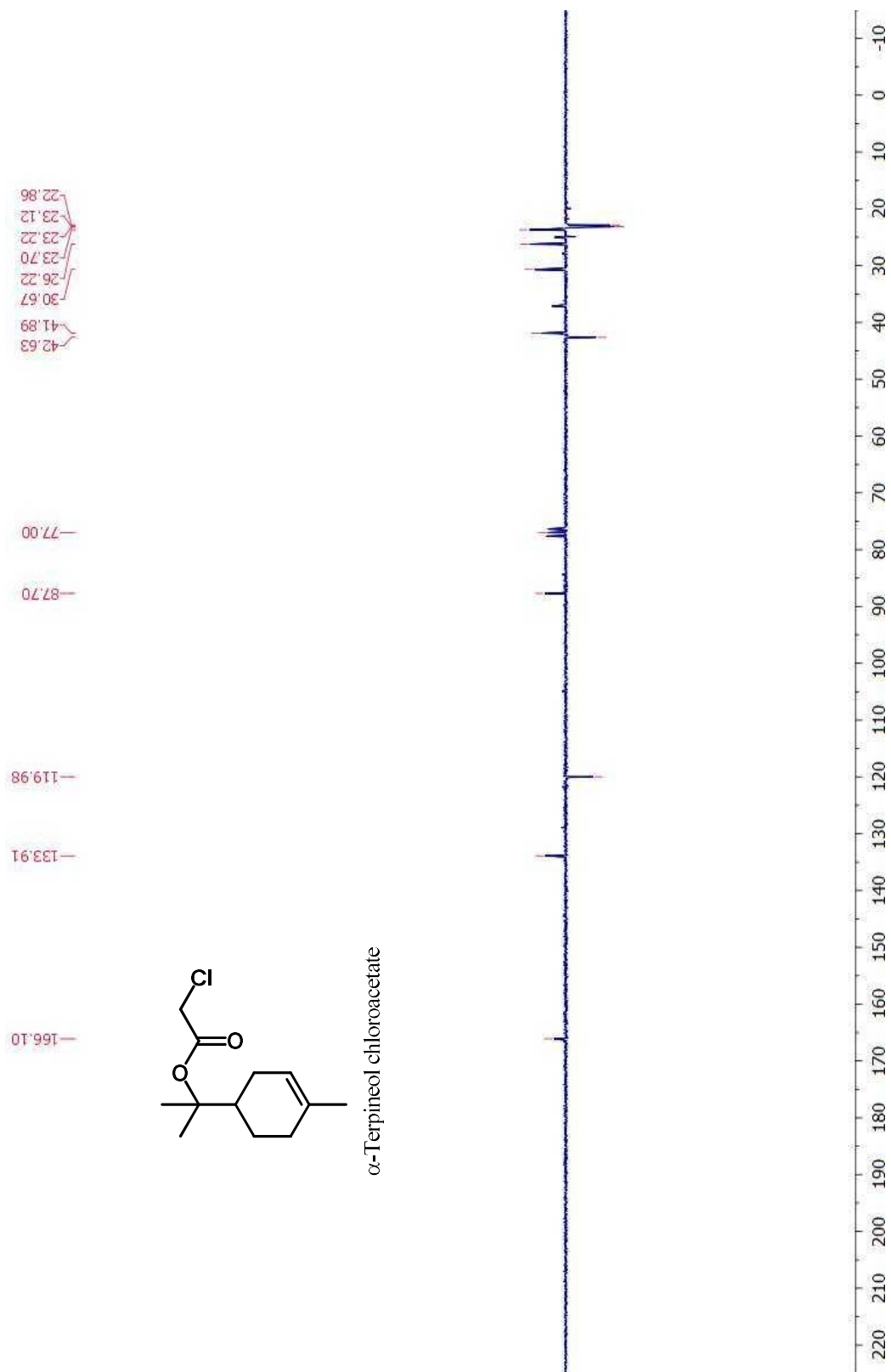


Figure S13. ^{13}C -NMR (δ , 50.30 MHz, CDCl_3)– α -Terpineol chloroacetate

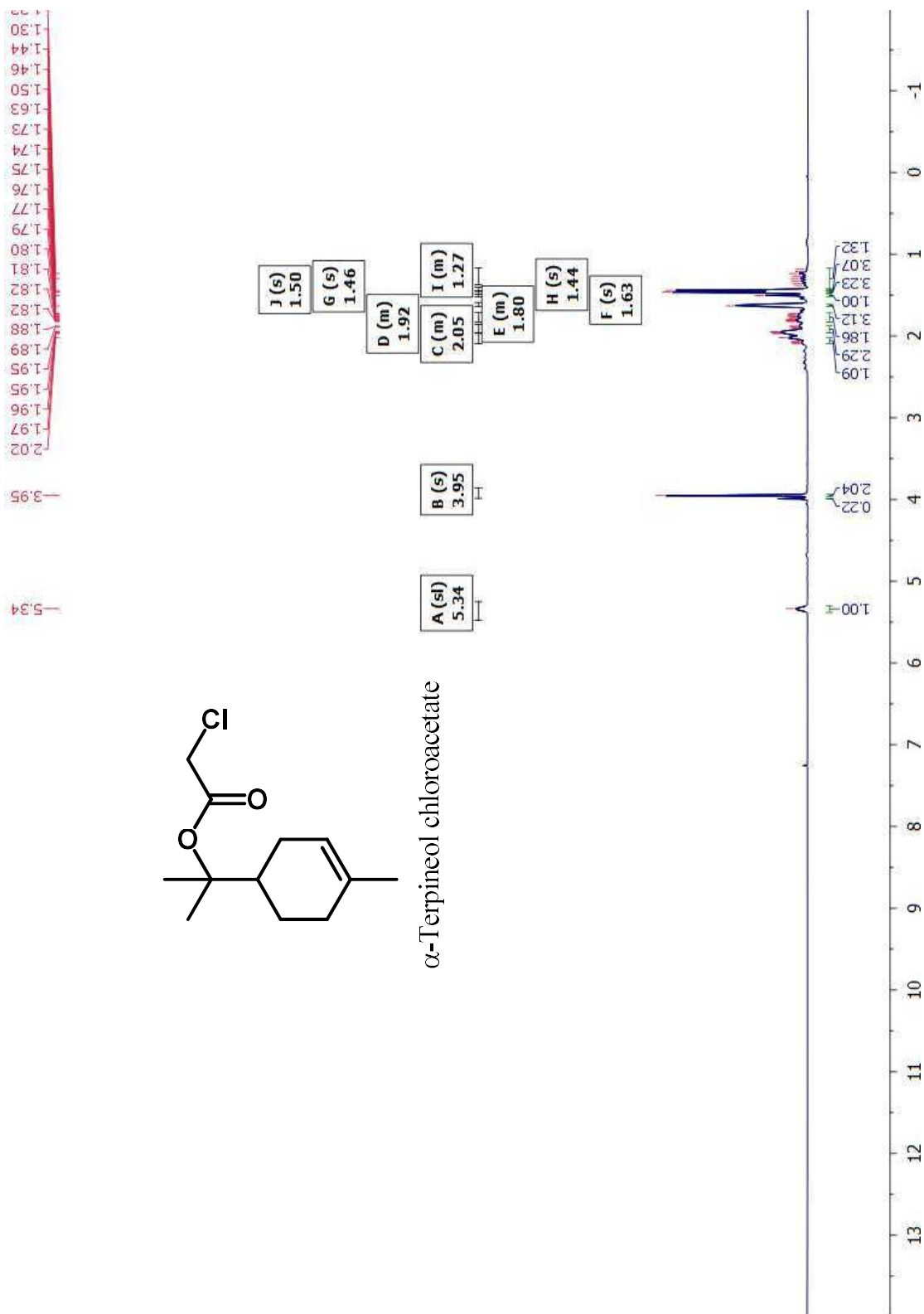


Figure S14. $^1\text{H-NMR}$ (δ , 200 MHz; CDCl_3) – α -Terpineol chloroacetate

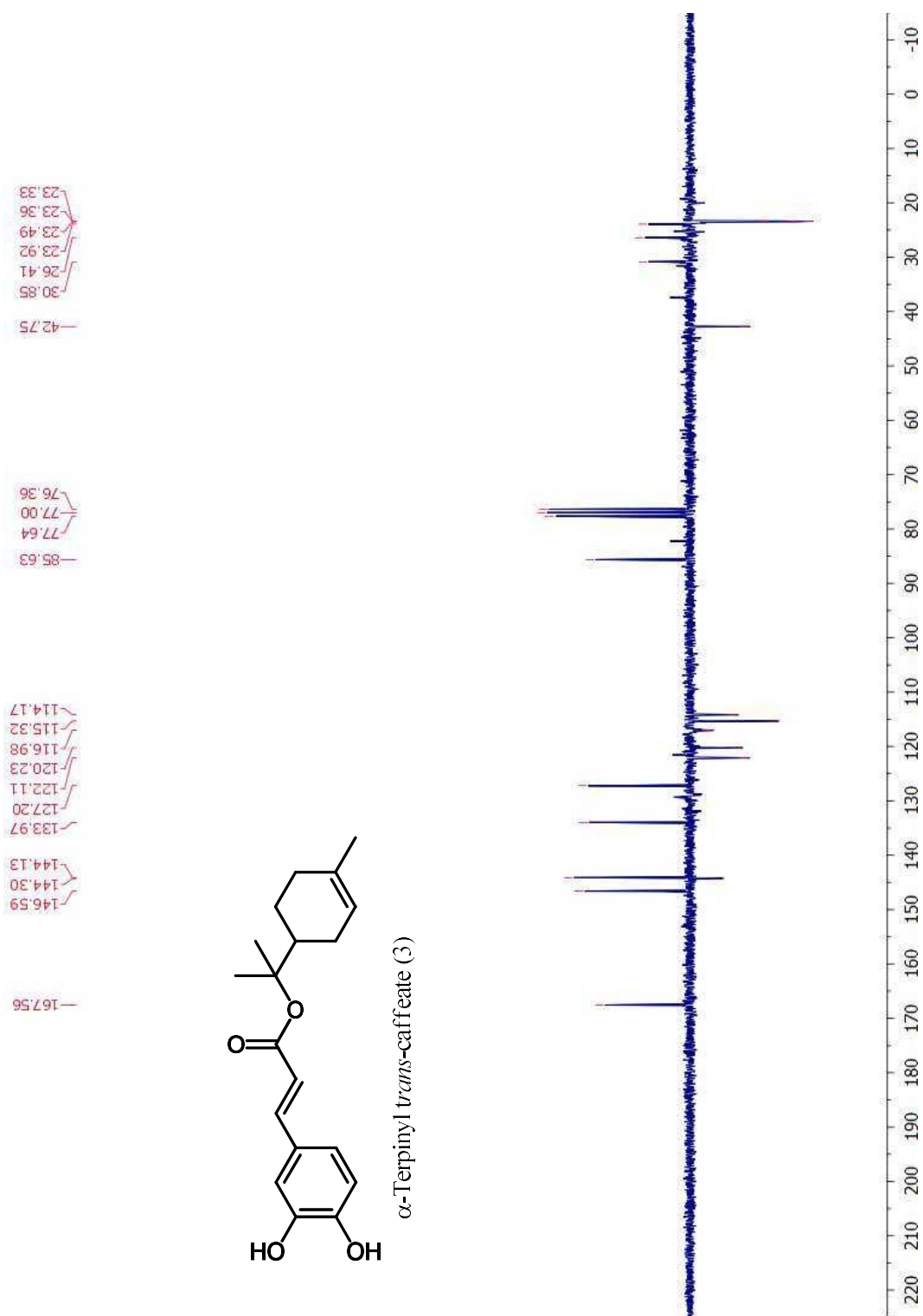


Figure S15. ^{13}C -NMR (δ , 50.30 MHz, CDCl_3) – α -Terpinyol *trans*-caffeate (3)

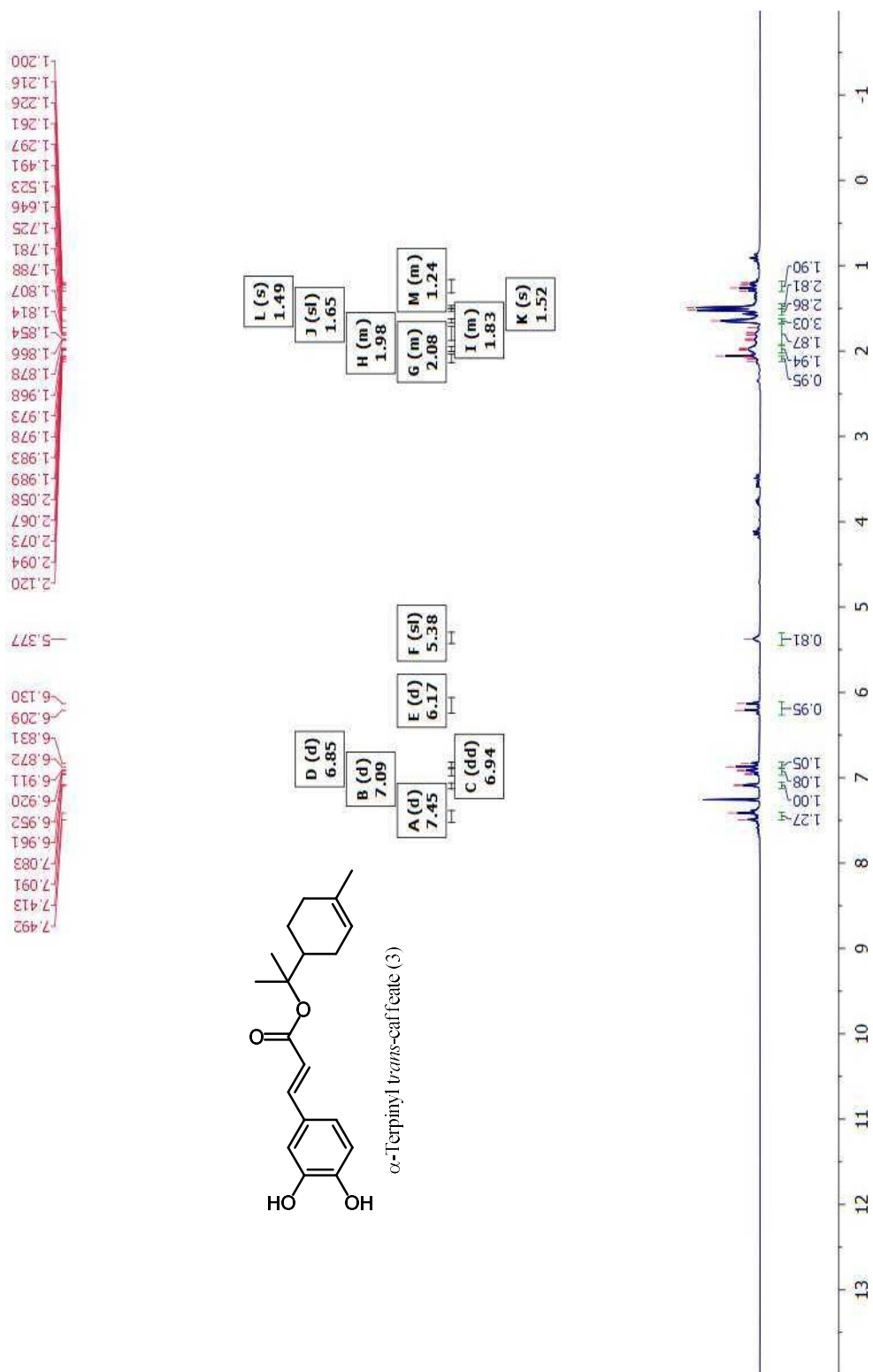


Figure S16. $^1\text{H-NMR}$ (δ , 200 MHz; CDCl_3) – α -Terpinyl *trans*-caffeate (**3**)