

~ SUPPORTING INFORMATION ~

Lipidated brartemicin adjuvant, C18Brar, is a promising α,α' -trehalose 6,6'-glycolipid for use in ovine pneumonia vaccines

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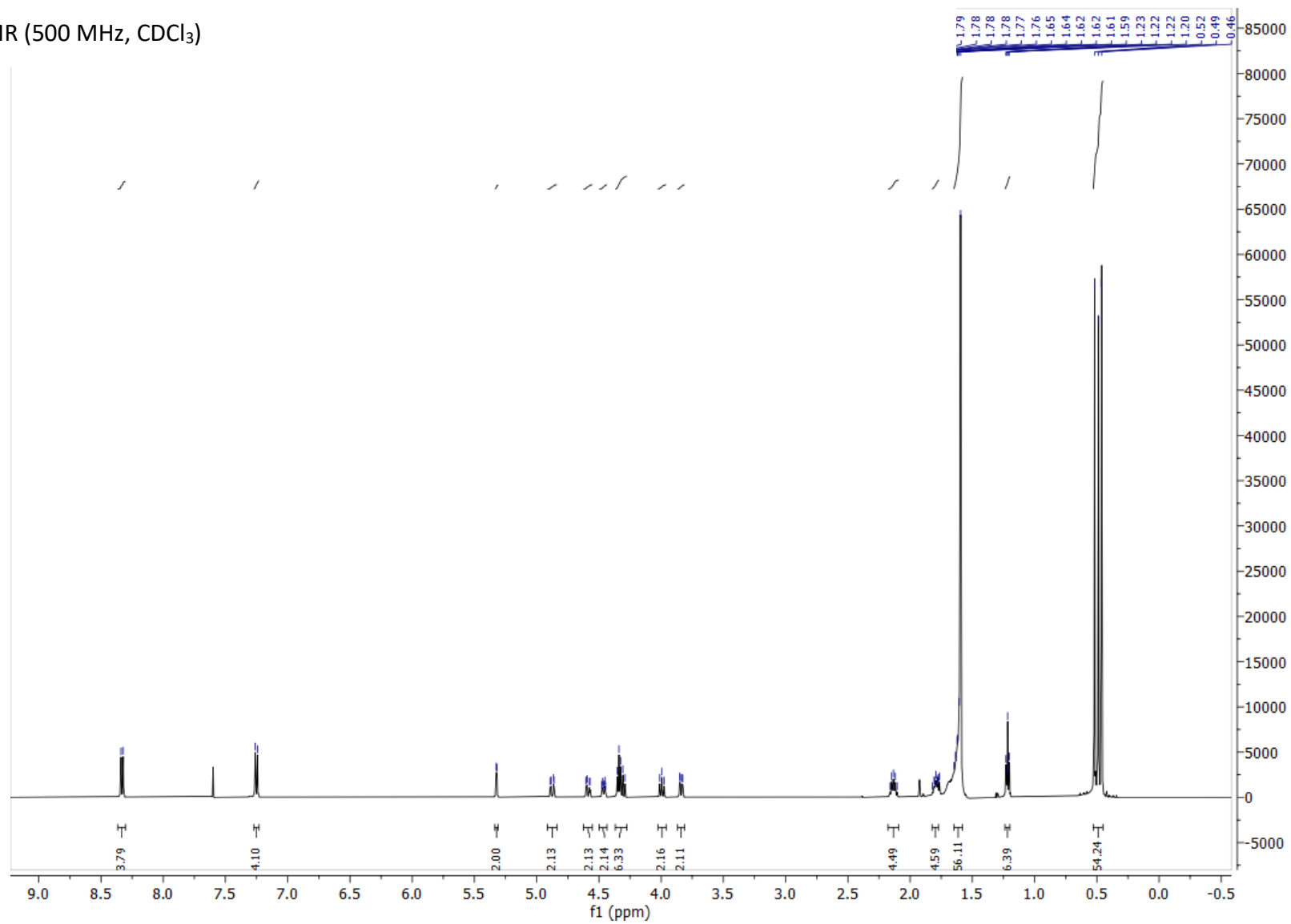
^1H and ^{13}C NMR Spectra (overleaf):

2,2',3,3',4,4'-Hexa-*O*-trimethylsilyl-6,6'-di-(4-octadecyloxy-benzoyl)- α,α' -D-trehalose (**10**)

6,6'-Di-(4-octadecyloxy-benzoyl)- α,α' -D-trehalose (C18Brar, **3**)

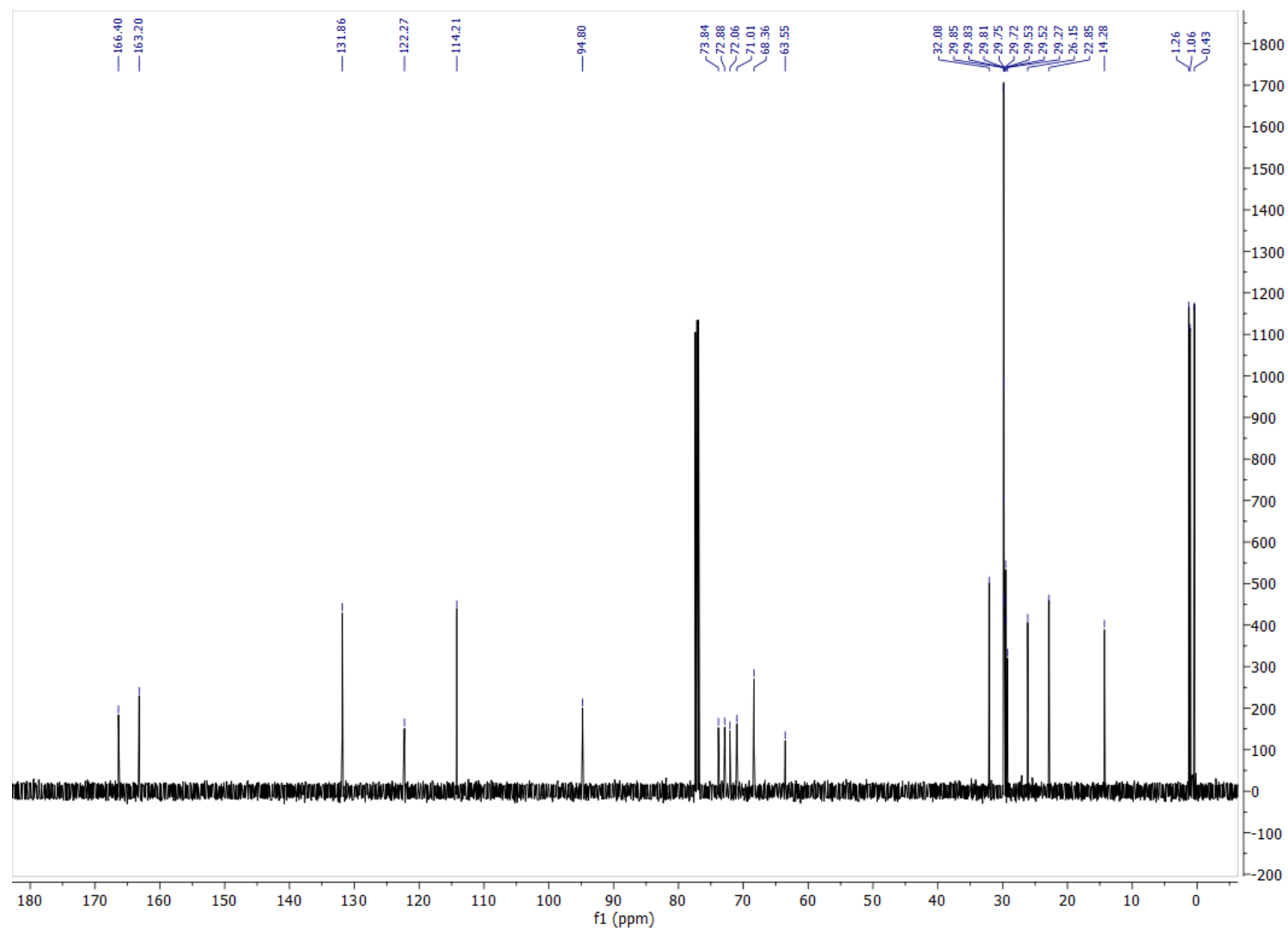
2,2',3,3',4,4'-Hexa-O-trimethylsilyl-6,6'-di-(4-octadecyloxy-benzoyl)- α,α' -D-trehalose

^1H NMR (500 MHz, CDCl_3)



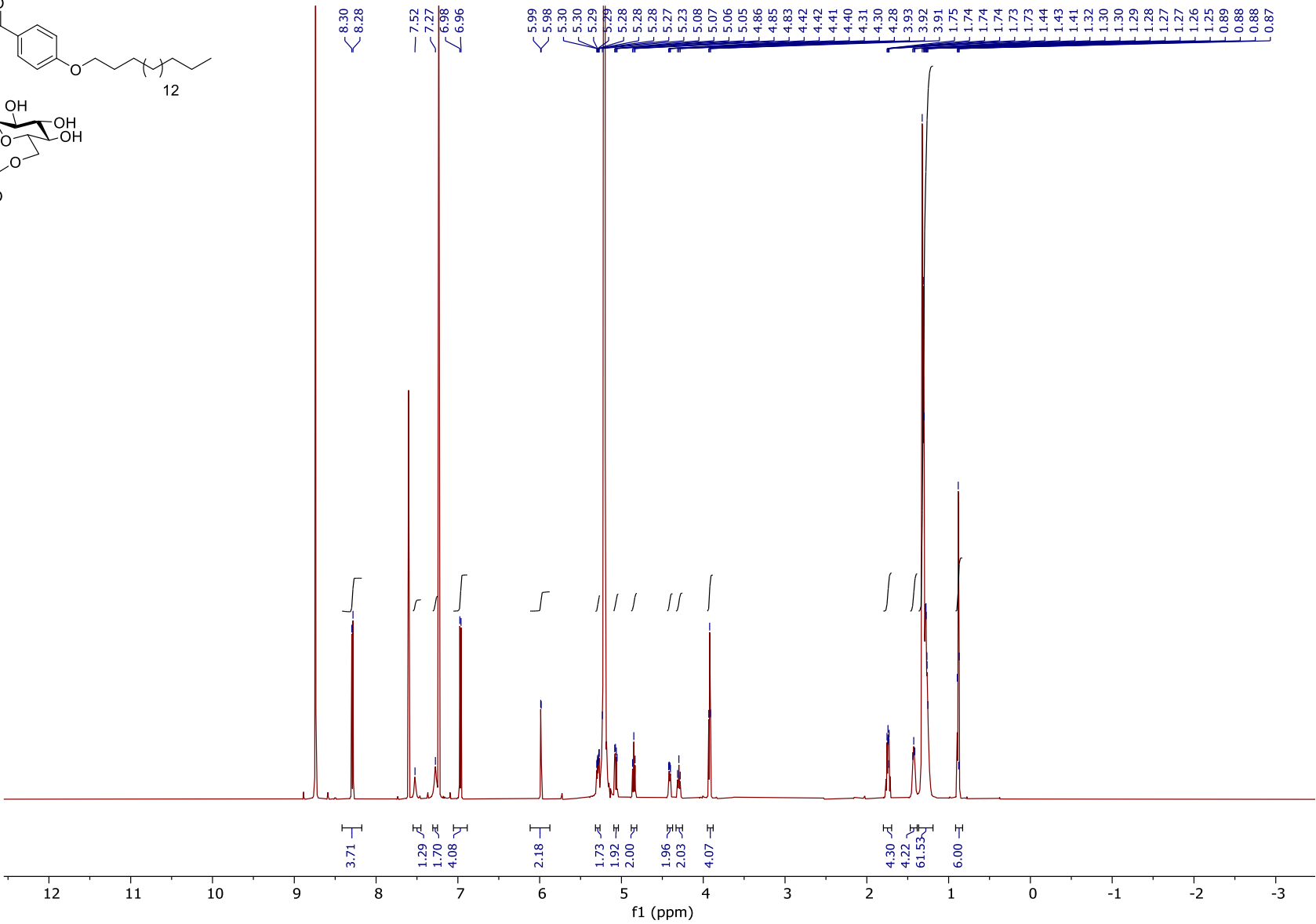
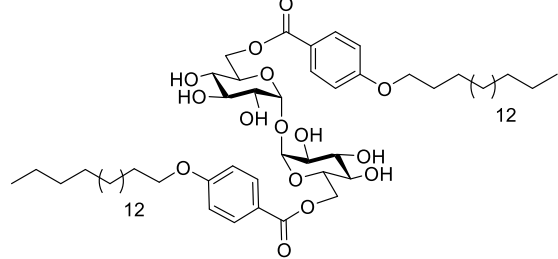
2,2',3,3',4,4'-Hexa-O-trimethylsilyl-6,6'-di-(4-octadecyloxy-benzoyl)- α,α' -D-trehalose

^{13}C NMR (125 MHz, CDCl_3)



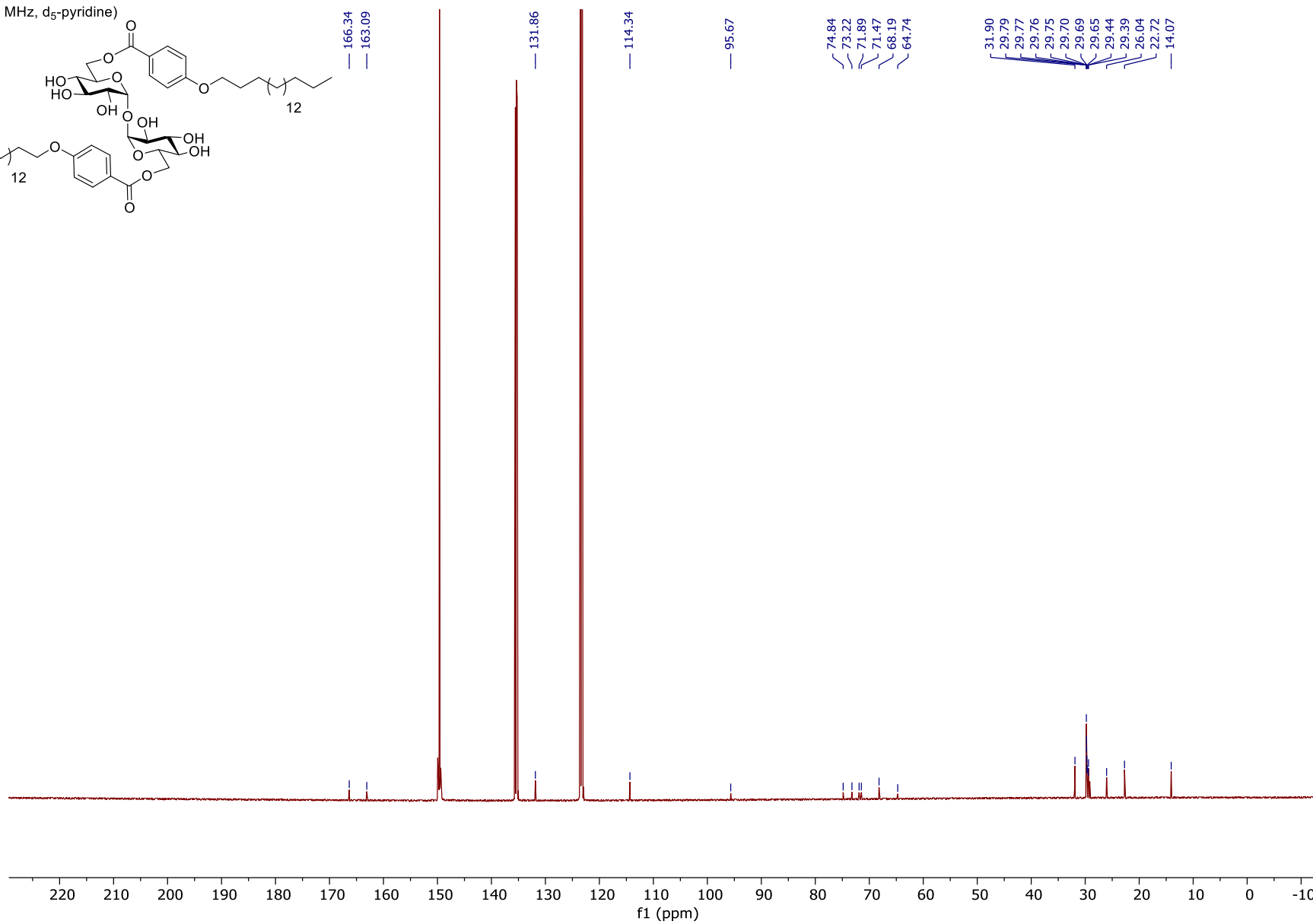
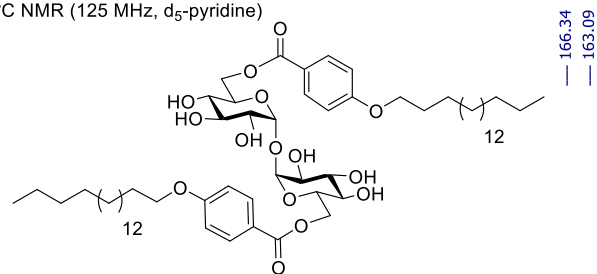
6,6'-Di-(4-octadecyloxy-benzoyl)- α,α' -D-trehalose (C18Brar, 3)

^1H NMR (500 MHz, d_5 -pyridine)



6,6'-Di-(4-octadecyloxy-benzoyl)- α,α' -D-trehalose (C18Brar, 3)

^{13}C NMR (125 MHz, d_5 -pyridine)



Ovine pneumonia vaccination studies

Table 1. Vaccination site reactions using different doses of C18Brar (3)

Group	Vaccine/adjuvant	Proportion of animals with vaccination site reaction (Score 1 [or 2])	
		1 st vaccination site	2 nd vaccination site
1	PBS	1/14 [0/14]	0/14 [0/14]
2	Quil-A	7/14 [1/14]	5/14 [0/14]
4	C18Brar (3.75 mg)	7/14 [0/14]	1/14 [0/14]
5	C18Brar (1.5 mg)	9/14 [0/14]	2/14 [0/14]
6	C18Brar (0.5 mg)	8/14 [1/14]	0/14 [0/14]

Score 1: Raised oedema with well-defined edging and ≥ 1 cm height, < 6 cm diameter

Score 2: Moderate oedema and raised > 1 cm height and ≥ 6 cm diameter