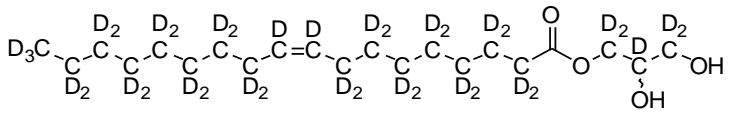




## THE NATIONAL DEUTERATION FACILITY

### PRODUCT ANALYSIS CERTIFICATE

**Product name:** Monoolein-d<sub>38</sub> (1-Oleoyl-*rac*-glycerol-d<sub>38</sub>)  
**Lab book code:** AEL01078 and AEL01082 (NMR experiments: AEL01078 expt 1; AEL01082 expt 2, 3 and 4)  
**Product structure:**



**Proposal & round:** DD4340 (2016-1)  
**Batch number:** CoA0915  
**Quantity supplied:** Quantity: 2.1 g  
**Supplied to:** Paul Butler and Thomas Cleveland  
**Date synthesised:** 20/04/2015  
**Date tested:** 24/04/2015

**Product Information:**

Theoretical chemical formula: C<sub>21</sub>H<sub>2</sub>D<sub>38</sub>O<sub>4</sub>  
 Theoretical molecular weight: 394.53 g/mol (if 100%D)  
 Physical appearance: White solid at 0 °C  
 Storage conditions: Store below 0 °C; store under inert gas; do not store in solution.  
 Stability: Stable under the recommended conditions.  
 Chemical purity: Pure\* by NMR and TLC (TLC attached).  
 Isotopic purity: 93.2% (±2%) overall (determined by MS analysis); 98.0% in the head;<sup>1</sup> 92.5% (±2%) in the tail.<sup>2</sup>

The following spectra are attached:

NMR:  <sup>1</sup>H  <sup>2</sup>H  <sup>13</sup>C  Other (please specify)

MS:

FTIR:

Other:  (Please Specify) .....

Comments: \*Contains a small amount of 2-oleoyl-glycerol-d<sub>38</sub> (acyl migration occurs upon storage or in solution);<sup>3</sup> typically exists as a mixture of 88:12 of 1- to 2-substituted lipids when stored in solution for long periods of times.<sup>4</sup>

Product synthesised by: Dr Anna Leung

NDF Approval by: Dr Tamim Darwish