**1.1. General Techniques**

Miscellaneous solvents were purchased from Fisher Scientific dried by sequential percolation through columns of activated alumina and copper Q5 catalyst prior to use. Chemical intermediates were obtained from commercial suppliers and used without further purification. Reactions were monitored by thin layer chromatography (TLC) using an appropriate solvent system. Silica coated aluminium TLC plates used were purchased from Merck (Kieselgel 60 F-254) and visualised using UV light at wavelengths of both 254 nm and 365 nm. Column chromatography was performed using flash grade silica from Fluorochem (40 - 63μm particle size). Yields refer to chromatographically (HPLC) and spectroscopically (1H NMR) homogenous material.

**1.2. Nuclear Magnetic Resonance (NMR)**

NMR spectra were recorded on a JEOL ECS spectrometer operating at 400 MHz (1H) as solutions in deuterated chloroform.

**1.3. Mass Spectrometry (MS)**

Mass spectra were recorded on a Bruker micrOTOF MS-Agilent series 1200LC spectrometer. We thank Mr. Karl Heaton of the University of York for acquiring MS data.

**1.4. High Performance Liquid Chromatography (HPLC)**

High-performance liquid chromatography was performed on a Shimadzu Prominence modular HPLC system comprising a LC-20A quaternary solvent pump, a DGU-20A5 degasser, a SIL-20A autosampler, a CBM-20A communication bus, a CTO-20A column oven, and a SPO-20A dual wavelength UV-vis detector operating at 220/260 nm. The column used was an Alltech C18 bonded reverse-phase silica column with a 5 μm pore size, an internal diameter of 10 mm and a length of 250 mm. The mobile phase used was a gradient of isopropanol/hexanes

**2. Experimental Discussion**

The unsymmetrical hydrazide ***i1***, prepared as described previously, 1 was cyclised to the 1,3,4-oxadiazole ***i2*** using propylphosphonic anhydride (T3P) and triethylamine in a 1:1 DMF/EtOAc. 2 This mild synthesis gave the synthetically useful ***i2*** in 94 % yield over 3 steps from commercially available materials while avoiding the use of hazardous and moisture sensitive reagents such as SOCl2.1, 3 Steglich esterification of ***i2*** with the benzoic acid ***i3*** - prepared according to ref [4] - afforded ***i4***; a subsequent hydrogenolysis of the benzyl group afforded ***i5***. Steglich esterification of ***i5*** with the benzoic acid ***i6*** - prepared according to ref [5] - afforded compound **1** in moderate yield (following chromatography and recrystalisation) and >99.5% purity as evidenced by RP-HPLC.

**3. Synthetic Scheme**

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**Scheme 1**

**4. Chemical Characterisation**

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***i2***

A solution of propylphosphonic anhydride in DMF (~ 50 wt%, 5.3 g, 8.3 mmol, ~5 ml) was added dropwise to a stirred suspension of ***i1*** (2 g, 5.6 mmol) in ethyl acetate (50 ml) and triethylamine (840 mg, 1.15 ml, 8.3 mmol) heated to reflux under a nitrogen atmosphere. The heating was continued for 18 hours before cooling and concentrating to dryness *in vacuo*. The crude residue was purified by flash chromatography over silica with a gradient of hexanes/EtOAc to afford the title compound as a white powder. Spectral data was in keeping with literature values. 6

Yield: 1.68 g (87%)

1H NMR: 5.06 (2H, s, ArOCH2Ph), 7.01 (2H, ddd, *J =* 2.0 Hz, *J =*2.8Hz, *J =* 8.8 Hz, ArH), 7.24-7.38 (6H, m, ArH + BnH), 7.96 (2H, ddd, *J =* 2.0 Hz, *J =*2.8Hz, *J =* 8.8 Hz, ArH), 7.97 (2H, ddd, *J =* 1.8 Hz, *J =* 2.4 Hz, *J =* 8.4 Hz, ArH).

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**i3**

A suspension of ***i2*** (3 g, 8.72 mmol), 4-dodecyloxy-2-methoxy acid (***i3***, 3.5 g, 10.5 mmol), EDC.HCl (2.0 g, 10.5 mmol) and DMAP (10 mg) in DCM (100 ml) was stirred until complete consumption of ***i2***. The solution was concentrated *in vacuo* and purified by flash chromatography over silica gel with a gradient of DCM/EtOAc as the eluent. Recrystalisation from EtOAc afforded the title compound as a white solid.

Yield: 4.4 g (77%)

1H NMR: 0.87 (3H, t, *J =* 6.7 Hz, -CH2­CH3), 1.21-1.39 (16H, m, -CH2­-(CH2)8-CH2-), 1.42-1.50 (2H, m, -CH2­CH2-CH2), 1.77-1.86 (2H, m, ArO-CH2­CH2-CH2­-), 3.92 (3H, S, ArO-CH3), 4.03 (2H, t, *J =* 7.0 Hz, ArO-CH2-CH2-), 5.15 (2H, S, ArOCH2Ph), 6.52 (1H, d, *J =* 2.1 Hz, ArH), 6.55 (1H, dd, *J =* 2.1 Hz, *J =* 8.3 Hz, ArH), 7.10 (2H, ddd, *J =* 2.1 Hz, *J =* 2.4 Hz, *J =* 8.4 Hz, ArH), 7.32-7.47 (8H, m, ArH), 8.07 (2H, ddd, *J =* 2.1 Hz, *J =* 2.4 Hz, *J =* 8.4 Hz, ArH), 8.15 (2H, ddd, *J =* 1.8 Hz, *J =* 2.4 Hz, *J =* 8.8 Hz, ArH).

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**i5**

A suspension of ***i4*** (1.2 g, 1.8 mmol), palladium on carbon (10 % Pd, 50 mg) in THF (50 ml) was vigorously stirred under vacuum (<1 mBar) for 15 minutes before introducing a hydrogen atmosphere. The suspension was stirred until complete consumption of ***i4***. The suspension was filtered over a packed bed of celite, concentrated *in vacuo* and the crude material recrystalised from isopropanol to afford the title compound as a white solid.

Yield: 970 mg (94 %)

1H NMR: 0.79 (3H, t, *J =* 6.8 Hz, -CH2­CH3), 1.06-1.36 (18H, m, -CH2­-(CH2)8-CH2-), 1.61-1.71 (2H, m, ArO-CH2­CH2-CH2­-), 3.80 (3H, S, ArO-CH3), 3.89 (2H, t, *J =* 6.5 Hz, ArO-CH2-CH2-), 6.76 (1H, dd, *J* = 2.5 Hz, *J =* 8.9 Hz, ArH), 6.83 (2H, ddd, *J =* 2.0 Hz, *J =* 2.3 Hz, *J =* 8.7 Hz, ArH), 6.89 (1H, d, *J =* 2.5 Hz, ArH), 7.25 (2H, ddd, *J =* 2.0 Hz, *J =* 2.3 Hz, *J =* 8.7 Hz, ArH),7.81 (2H, ddd, *J =* 1.8 Hz, *J =* 2.4 Hz, *J =* 8.4 Hz, ArH), 7.97 (1H, d, *J =* 8.7 Hz, ArH), 8.02 (2H, ddd, *J =* 1.8 Hz, *J =* 2.4 Hz, *J =* 8.8 Hz, ArH), 9.51 (1H, S, ArOH) *NMR run in 4:1 CDCl3/DMSO-D6 to aid solubility*



**Compound 1**

A suspension of ***i5*** (750 mg, 1.34 mmol), 4-dodecyloxy-2-methyl acid (***i4***, 520 mg, 1.61 mmol), EDC.HCl (307 mg, 1.61 mmol), and DMAP (10 mg) in DCM (30 ml) was stirred until complete consumption of ***i5***. The solution was concentrated *in vacuo* and purified by flash chromatography over silica gel with a gradient of DCM/EtOAc as the eluent (Rf = 0.74, EtOAc). The chromatographed material was redisolved in dichloromethane, filtered through a 0.2 μm PTFE filter and evaporated to dryness. Recrystalisation from EtOAc afforded the title compound as a white solid.

Yield: 875 mg (76 %)

1H NMR: 0.87 (6H, t, *J =* 6.8 Hz, 2x -CH2­CH3), 1.18-1.50 (36H, m, 2x -CH2-(CH2)9-CH2-), 1.75-1.86 (4H, m, 2x –CH2-CH2­-CH2-), 2.66 (3H, S, Ar-CH3), 3.93 (3H, S, ArO-CH3), 4.02 (2H, t, *J =* 6.7 Hz, ArO-CH2­-CH2-), 4.03 (2H, t, *J =* 6.6 Hz, ArO-CH2­-CH2-), 6.53 (1H, d, *J =* 2.2 Hz, ArH), 6.55 (2H, dd, *J =* 2.2 Hz, *J =* 8.7 Hz), 6.82 (2H, m, ArH), 7.36-7.41 (4H, m, ArH), 8.08 (1H, d, *J =* 8.7 Hz, ArH), 8.16-8.23 (5H, m, ArH)

MS (APCI): 8735.518004 (calcd. for C54H71N2O8: 875.520494, M + H)

RP-HPLC: >98 %

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