



From University to Profession: Scientific Support in an Analytical Instrument Company

Guy Entract



UNIVERSITY OF HULL

1. MChem
2. PhD

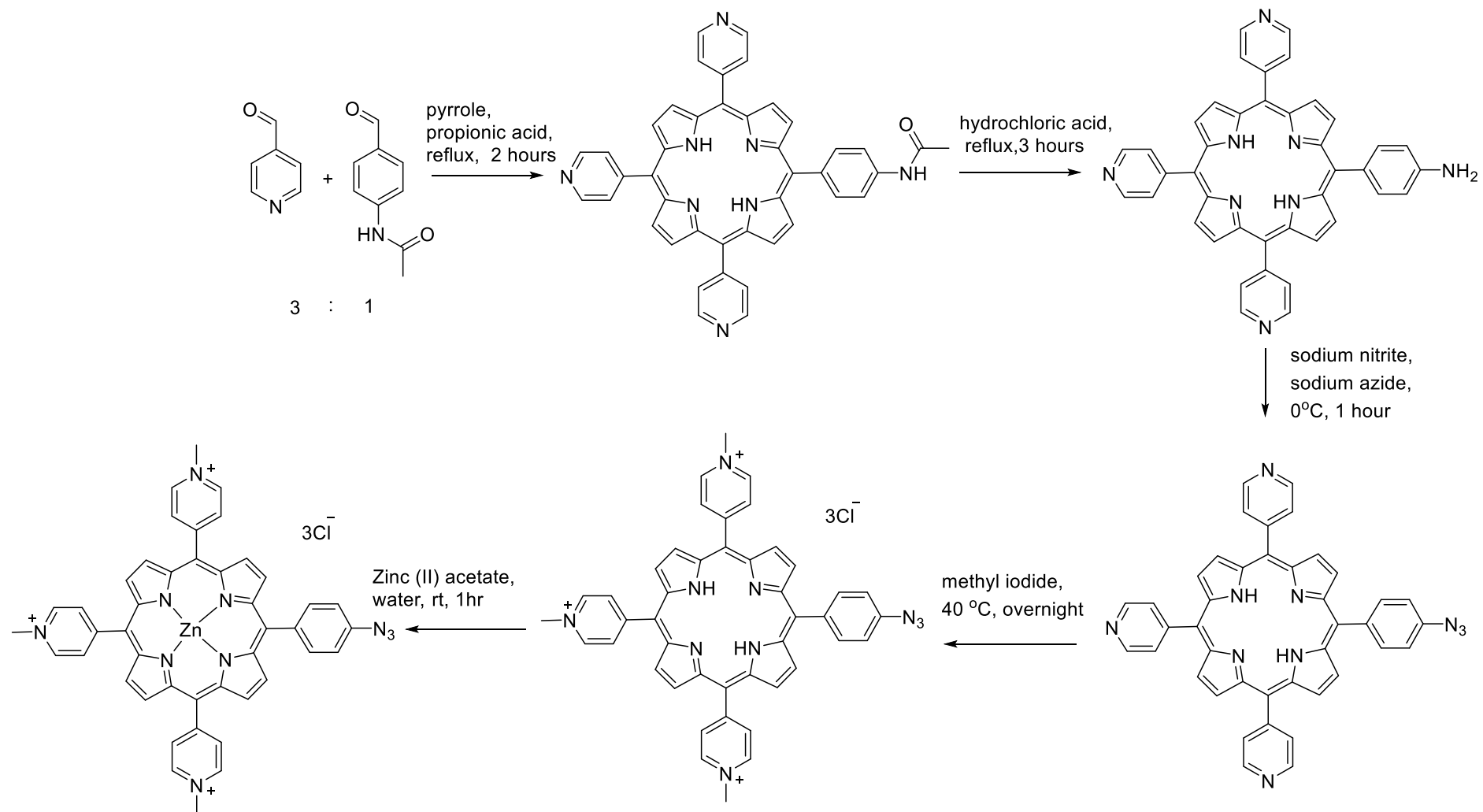




HULL

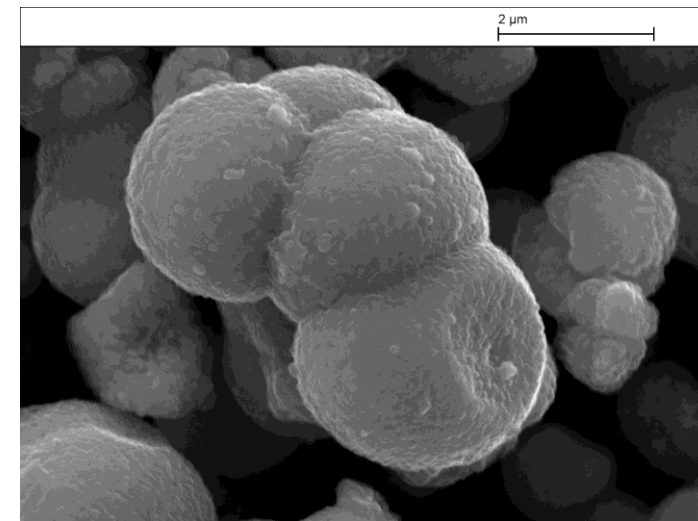
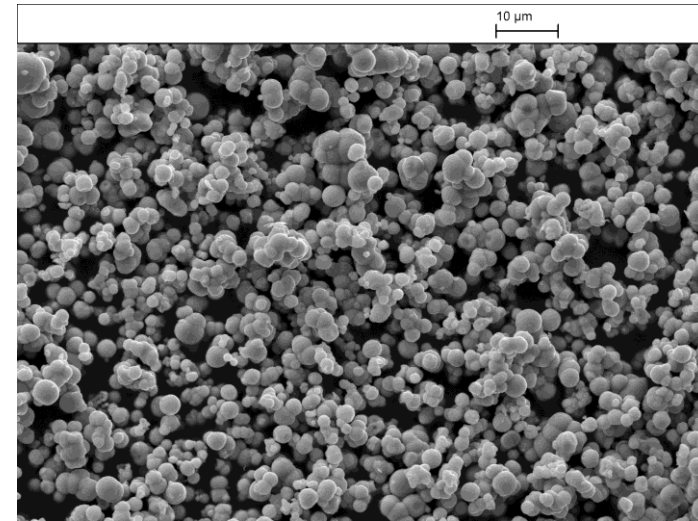
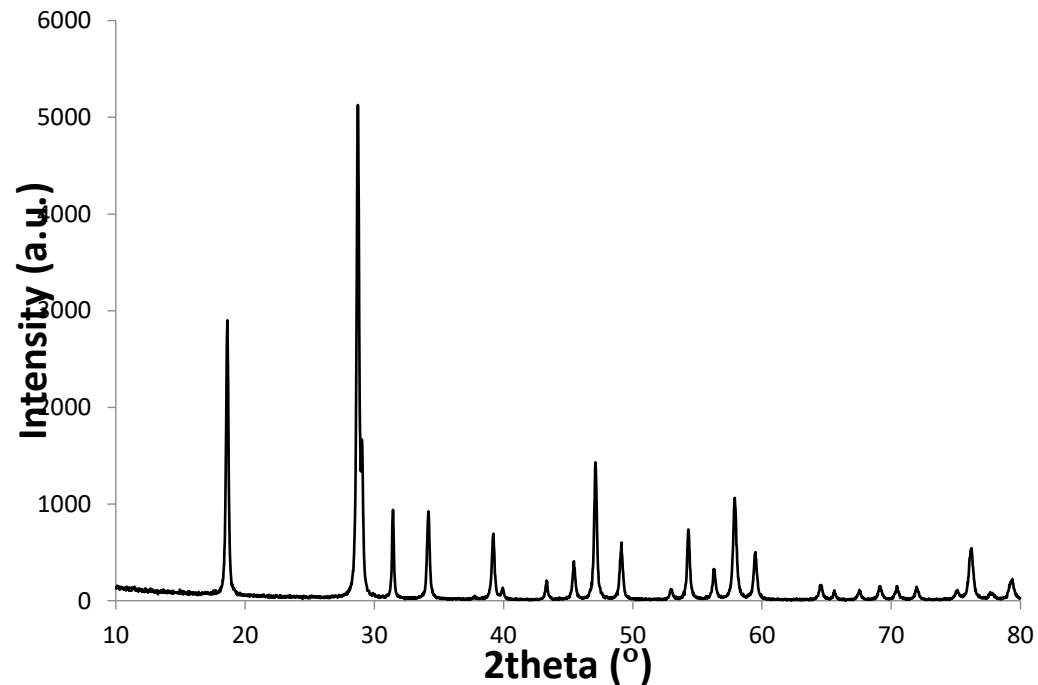
NOT LONDON

Conjugate system 1 - photosensitiser

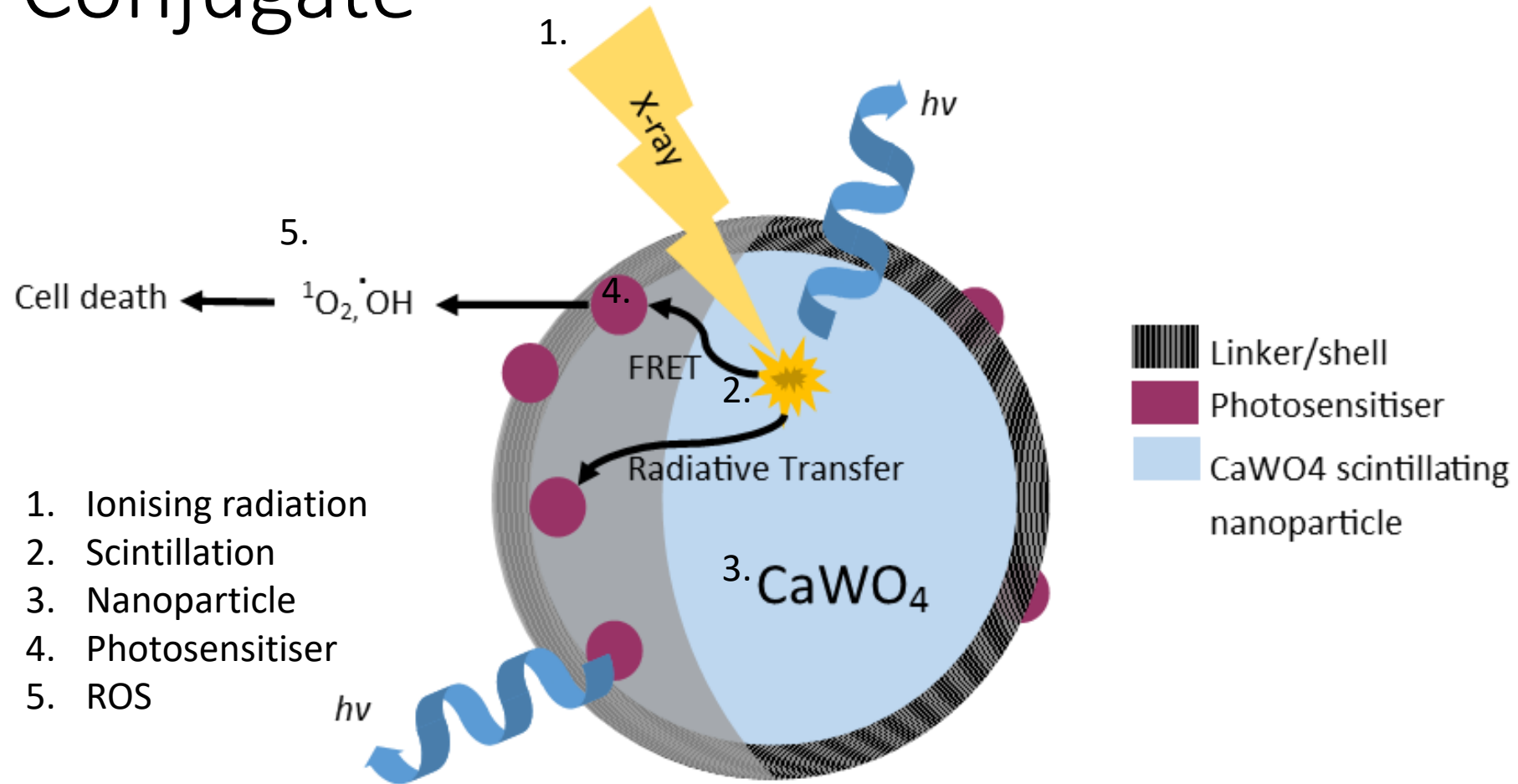


Nanoparticle Synthesis

- Facile microwave synthesis
- $\text{Ca}(\text{NO}_3)_2$, NaWO_4 , NaOH , water
180°C, 1hr and annealing.
- Non-toxic/hygroscopic
- Good scintillation fluorescence



Conjugate



PhD and Post-Doc Experience

- HPLC (High Performance Liquid Chromatography)
- MS (Mass Spectrometry)
- NMR (Nuclear Magnetic Resonance)
- PXRD (Powder X-Ray Diffraction)
- SEM & TEM (Scanning/Transmission Electron Microscopy)
- FTIR (Fourier Transform InfraRed Spectroscopy)
- AFM (Atomic Force Microscopy)
- Microwave synthesis (Amazing Instrument!)
- UV-Vis/Fluorescence and Solid state UV-Vis (Spectroscopies)
- X-ray irradiator



#ACSSanDiego



ACS
Chemistry for Life®

MEETINGS & EVENTS

CHEMISTRY
& WATER

AMERICAN CHEMICAL SOCIETY
FALL 2019 NATIONAL MEETING & EXPO

← WIFE

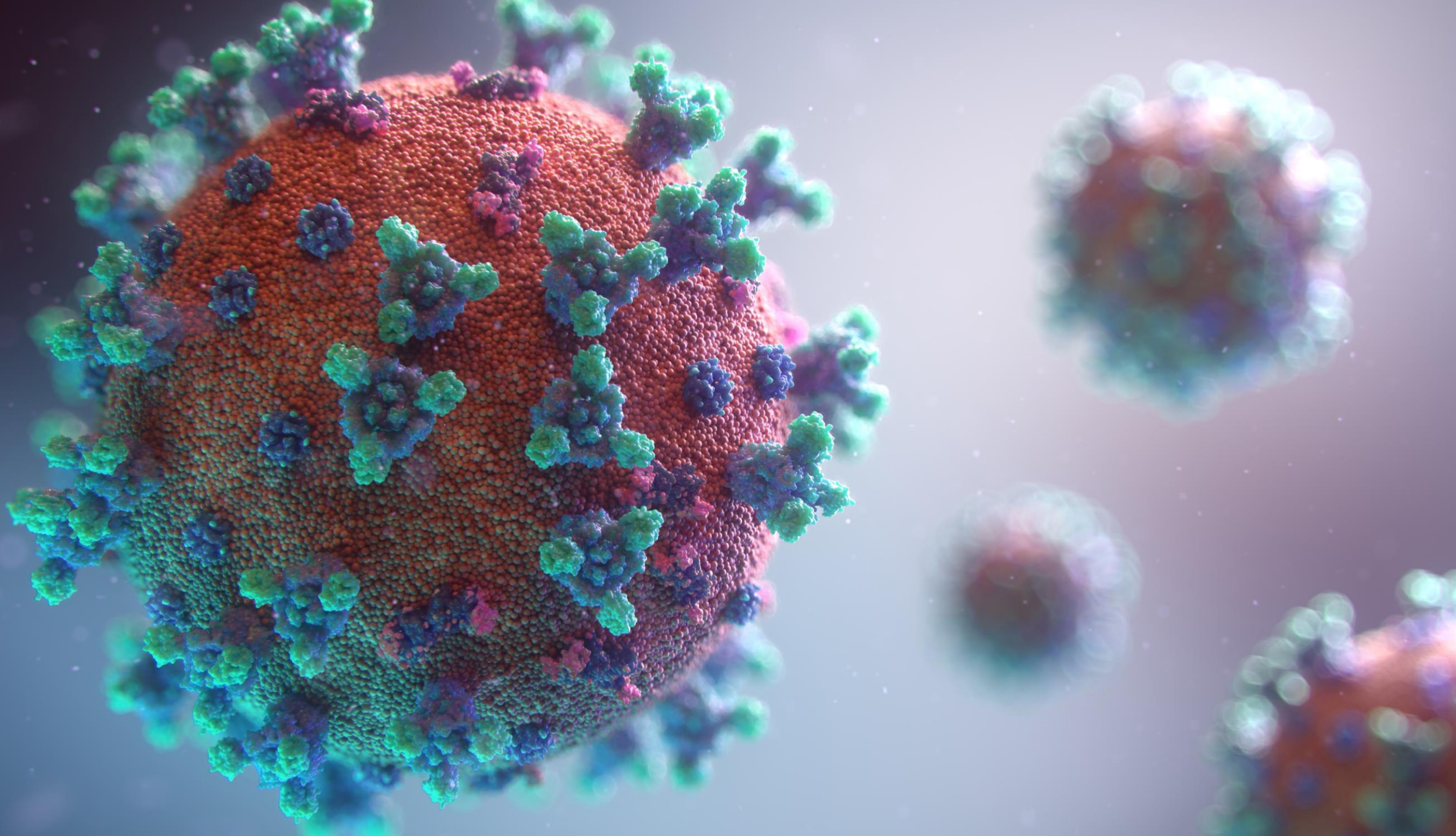


Science

Selfies

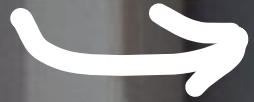








Ernest



Dmitri





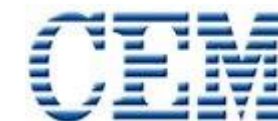
ME Support Engineer



“Quality by all means”



Doping Control of the Athens Olympic Games 2004



Science & Service Support

- Well-trained personnel (MSc, PhD) Chemists, Chemical Engineers, Biologists, Food Technologist, etc.,
- Installation and Repair
- Scientific Support
- Method Development
- Calibration (accredited **Metrology Laboratory**)
- ISO9001
- ISO13485 (Medical Devices).
- ISO17025

2022 Calendar

Malvern, England



January							February							March							April						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
					1	2	1	2	3	4	5	6	1	2	3	4	5	6					1	2	3		
3	4	5	6	7	8	9	7	8	9	10	11	12	13	7	8	9	10	11	12	13	4	5	6	7	8	9	10
10	11	12	13	14	15	16	14	15	16	17	18	19	20	14	15	16	17	18	19	20	11	12	13	14	15	16	17
17	18	19	20	21	22	23	21	22	23	24	25	26	27	21	22	23	24	25	26	27	18	19	20	21	22	23	24
24	25	26	27	28	29	30	28							28	29	30	31				25	26	27	28	29	30	
31																											

Almelo Netherlands



May							June							July							August						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
						①	1	2	3	4	5				1	2	3	1	2	3	4	5	6	7			
②	③	④	⑤	⑥	⑦	8	6	7	8	9	10	11	12	4	5	6	7	8	9	10	8	9	10	11	12	13	14
9	10	11	12	13	14	15	⑬	⑭	⑮	⑯	⑰	18	19	11	12	13	14	15	16	17	15	16	17	18	19	20	21
16	17	18	19	20	21	22	⑳	㉑	㉒	㉓	㉔	㉕	㉖	18	19	20	21	22	23	24	22	23	24	25	26	27	28
23	24	25	26	27	28	29	㉗	㉘	㉙	30				25	26	27	28	29	30	31	29	30	31				
30	31																										

Amsterdam Netherlands



Waters
THE SCIENCE OF WHAT'S POSSIBLE.®

Strasberg, France

September							October							November							December						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
			1	2	3	4						①	②	1	2	3	4	5	6				1	2	3	4	
5	6	7	8	9	10	11	③	④	⑤	⑥	⑦	⑧	⑨	7	8	9	10	11	12	13	5	6	7	8	9	10	11
12	⑬	⑭	⑮	⑯	⑰	⑱	⑩	⑪	⑫	⑬	⑭	15	16	⑭	⑮	⑯	⑰	⑱	19	20	12	13	14	15	16	17	18
⑲	⑳	㉑	㉒	㉓	㉔	㉕	17	18	19	20	21	22	23	21	22	23	24	25	26	27	19	20	21	22	23	24	25
26	27	28	29	30			24	25	26	27	28	29	30	28	29	30				26	27	28	29	30	31		
							31																				

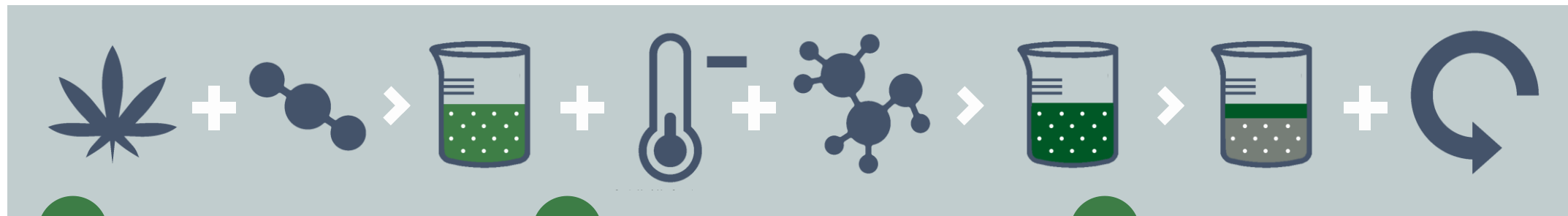




Pharmaceutical Cannabis



PROCESSING OVERVIEW



1

EXTRACTION

Plant matter is exposed to solvent to create waxy hash concentrate; terpenes captured

2

WINTERIZATION/FILTRATION

Polar solvent is added; deep freeze for precipitation and filtration of waxes & lipids

3

ETHANOL RECOVERY

Resulting mixture processed with rotary evaporation and polar solvent to create refined oil



4

DECARBOXYLATION

Energy directed into material, typically thru heat, activating bioactive γ constituents

5

FRACTIONAL DISTILLATION

'Decarboxylated' oil undergoes this process, creating pure distillate

6

PREP CHROMATOGRAPHY

Distillate further purified into isolated cannabinoids, driving product development



Processing Equipment

1st Supercritical CO₂ Extractors
1st Short path distillation

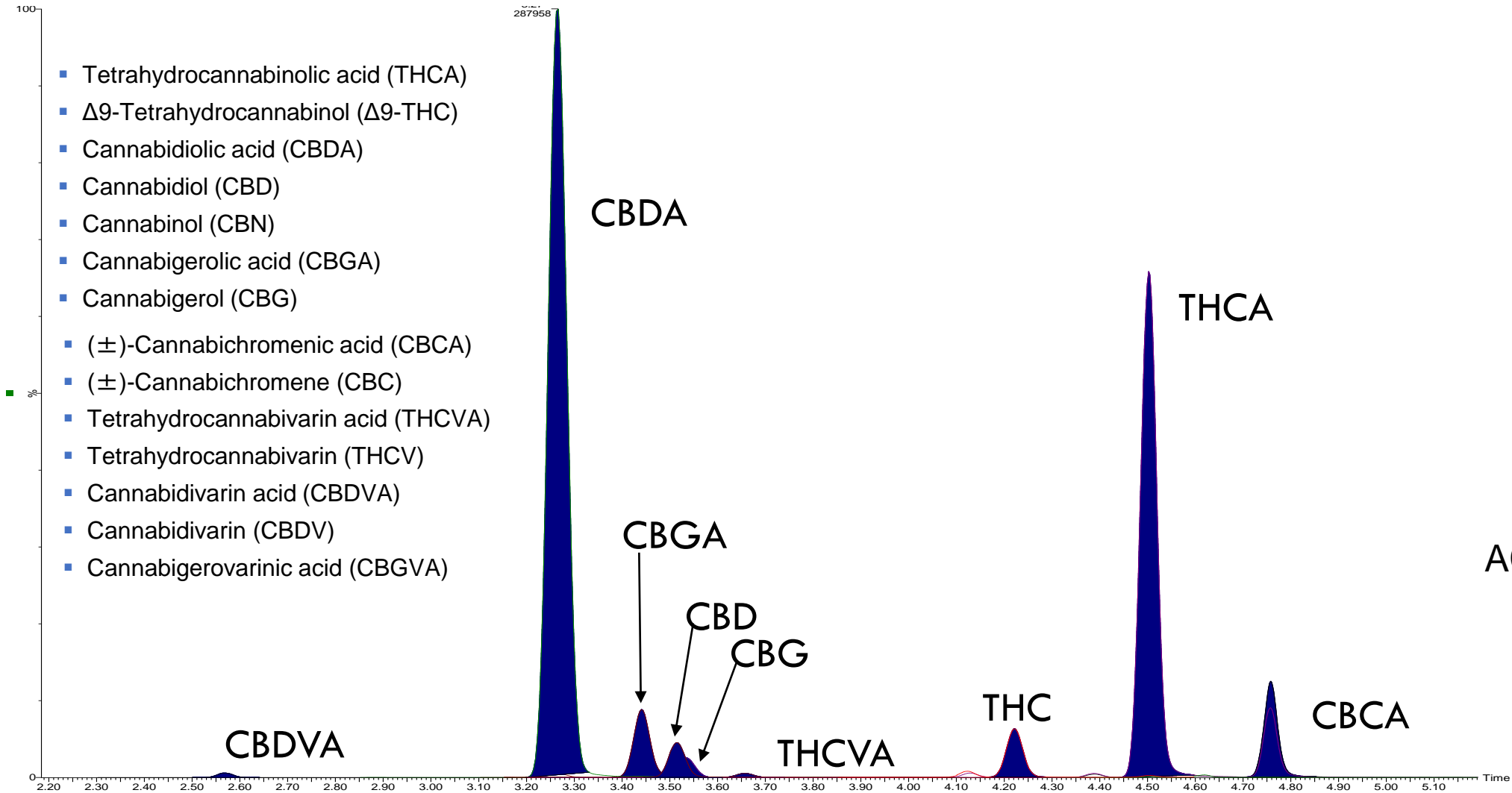


Complete Analytical Solution

- Sample Preparation
- Standards Preparation
- Moisture Analysis
- Pesticide Analysis (UPLC-MS & GCMS)
- Cannabinoid Analysis (UPLC-UV)
- Terpene Analysis (GCMS)
- Microbial Analysis
- General Laboratory Equipment

Potency Testing

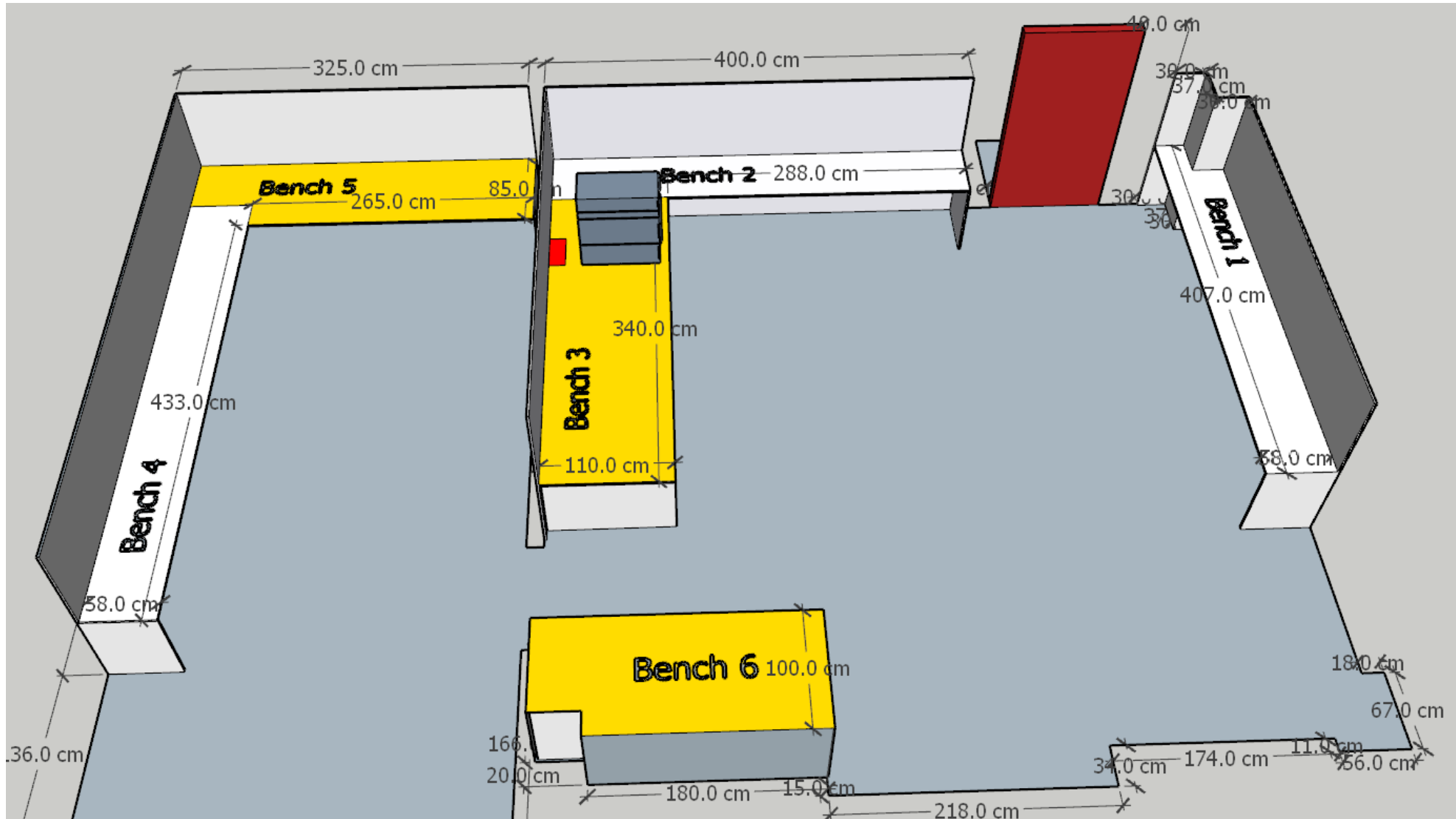
14 Cannabinoids by UPLC-UV in 5 min



- Tetrahydrocannabinolic acid (THCA)
- Δ9-Tetrahydrocannabinol (Δ9-THC)
- Cannabidiolic acid (CBDA)
- Cannabidiol (CBD)
- Cannabinol (CBN)
- Cannabigerolic acid (CBGA)
- Cannabigerol (CBG)
- (±)-Cannabichromenic acid (CBCA)
- (±)-Cannabichromene (CBC)
- Tetrahydrocannabivarin acid (THCVA)
- Tetrahydrocannabivarin (THCV)
- Cannabidivarin acid (CBDVA)
- Cannabidivarin (CBDV)
- Cannabigerovarinic acid (CBGVA)



ACQUITY H-Class



Ευχαριστώ για την προσοχή σας

Guy Entract
Chemist, PhD – Support Engineer Thessaloniki
gen@hellamco.gr



HELLAMCO A.E.
ΕΠΙΣΤΗΜΟΝΙΚΟΣ ΕΞΟΠΛΙΣΜΟΣ

www.hellamco.gr
email: info@hellamco.gr

ΕΔΡΑ:
Δελφών 13, 152 33 Χαλάνδρι, Αθήνα
Τηλ.: 210 6895260 Fax: 210 6801672

ΥΠΟΚΑΤΑΣΤΗΜΑ Α΄:
ΑΠΟΘΗΚΗ-SERVICE-ΜΕΤΡΟΛΟΓΙΑ
Μαραθώνος 5, 152 33 Χαλάνδρι, Αθήνα
Τηλ.: 210 6895260 Fax: 210 6801676

ΥΠΟΚΑΤΑΣΤΗΜΑ Β΄:
ΓΡΑΦΕΙΟ Β. ΕΛΛΑΔΟΣ
Αντ. Τρίτση 15-17 Θέρμη, 570 01, Θεσ/κη
Τηλ.: 2310 869910 Fax: 2310 869911

