STUDY ABROAD

with UiS

Start Slide

KANPHIROM LERTBUMROONCHAII

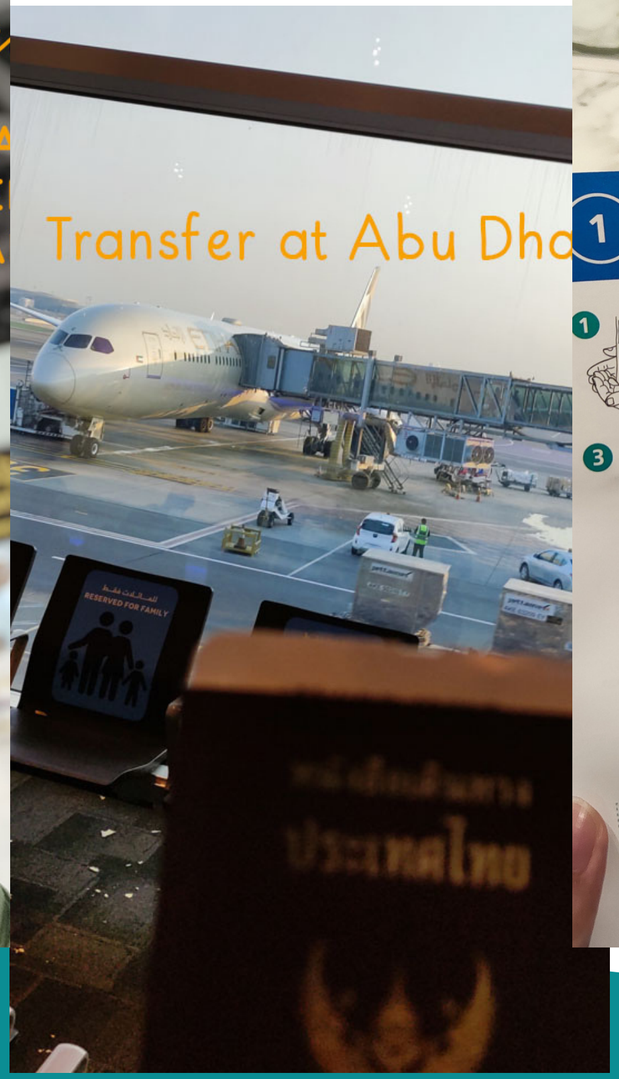
Welcome To

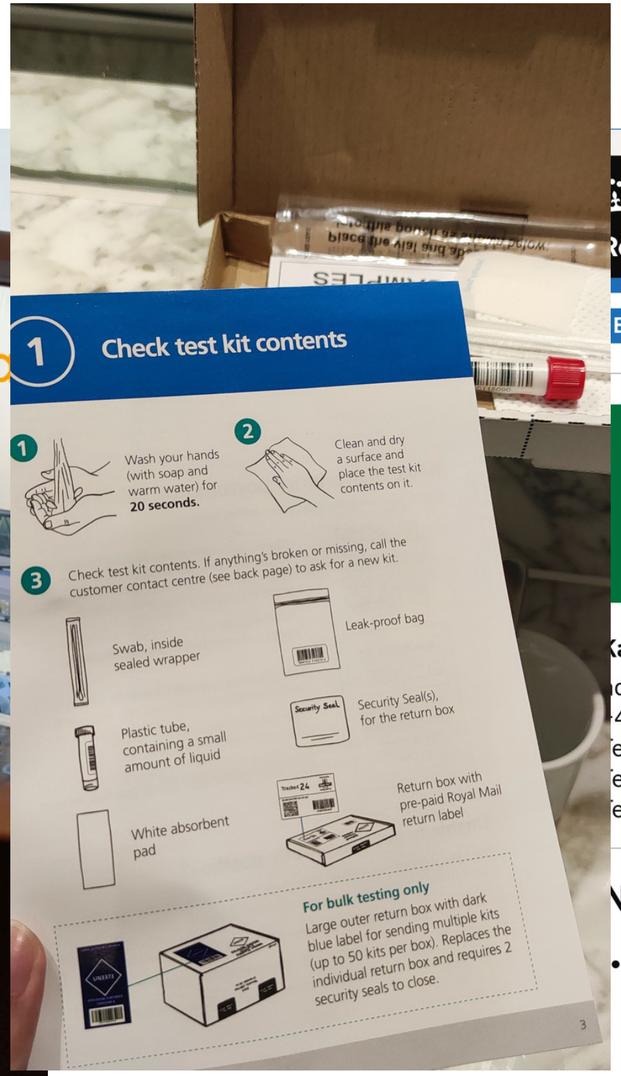
UNIVERSITY OF YORK

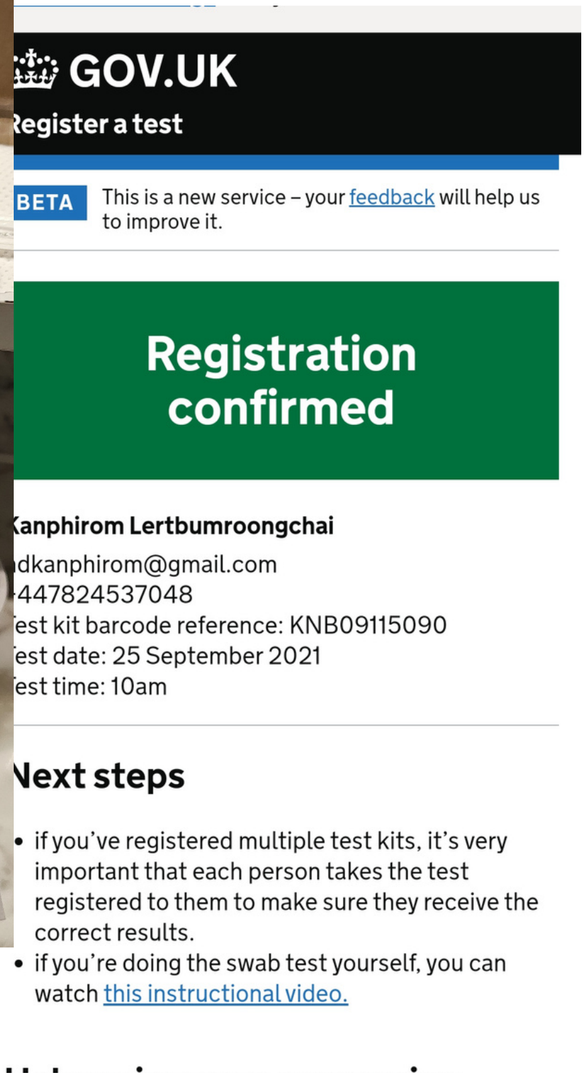
MSc in Green chemistry & Sustainable Industrial Technology

Read More


Flying with
Etihad Airwa
THURSDA
23 SE
00.50 A


Transfer at Abu Dha
RESERVED FOR FAMILY


1 Check test kit contents
1 Wash your hands (with soap and warm water) for 20 seconds.
2 Clean and dry a surface and place the test kit contents on it.
3 Check test kit contents. If anything's broken or missing, call the customer contact centre (see back page) to ask for a new kit.
Swab, inside sealed wrapper
Leak-proof bag
Plastic tube, containing a small amount of liquid
Security Seal(s), for the return box
White absorbent pad
Return box with pre-paid Royal Mail return label
For bulk testing only
Large outer return box with dark blue label for sending multiple kits (up to 50 kits per box). Replaces the individual return box and requires 2 security seals to close.
3


GOV.UK
Register a test
BETA
This is a new service – your feedback will help us to improve it.
Registration confirmed
Kanphirom Lertbumroongchai
dkanphirom@gmail.com
+447824537048
Test kit barcode reference: KNB09115090
Test date: 25 September 2021
Test time: 10am
Next steps
• if you've registered multiple test kits, it's very important that each person takes the test registered to them to make sure they receive the correct results.
• if you're doing the swab test yourself, you can watch this instructional video.

COVID QUARANTINE POLICY

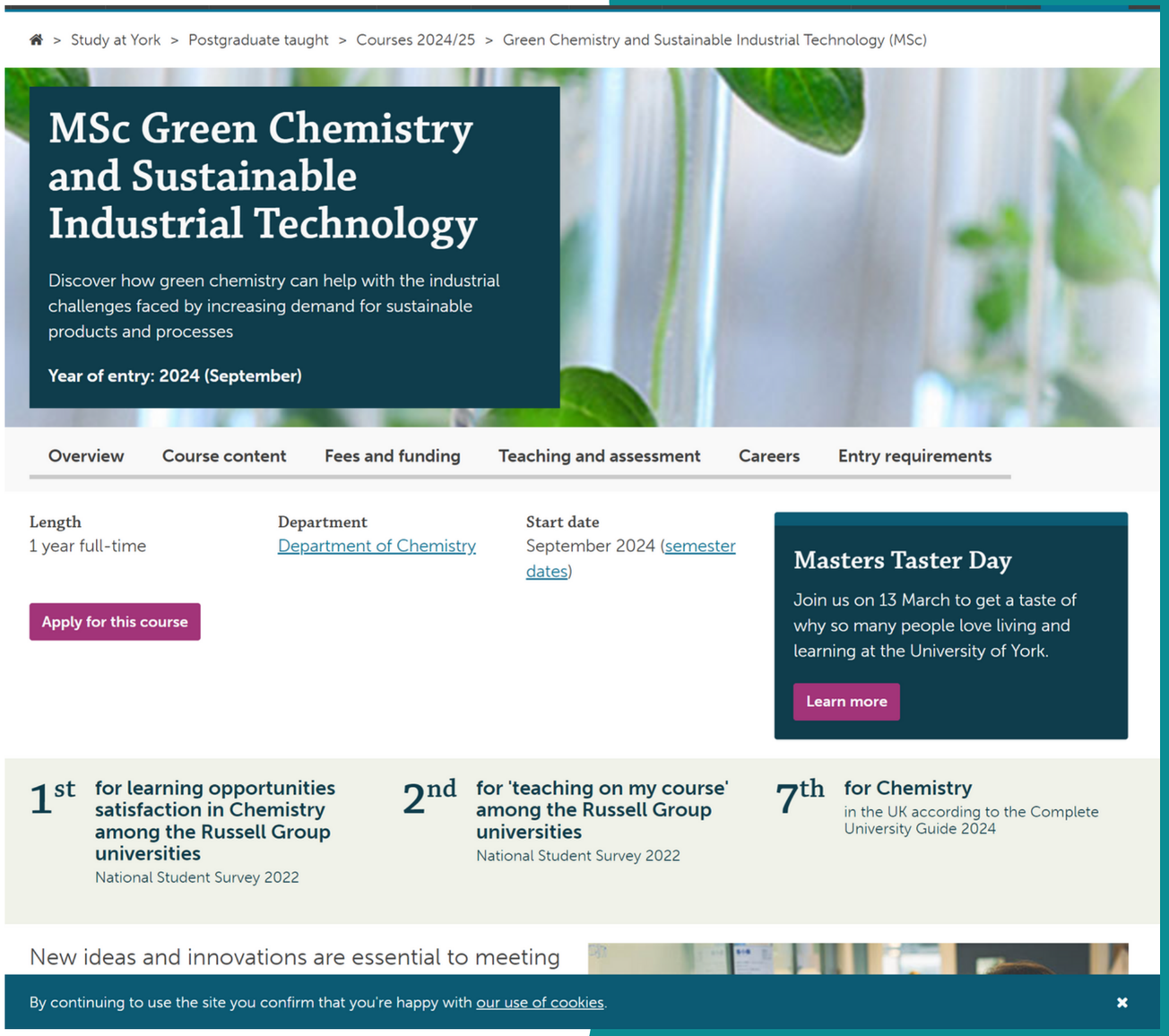
- Quarantine for 11 days in a designated hotel
- Must had PCR test for COVID 19
- Must do the research about the York e.g. number of COVID 19 case, criminal

Let's Start

MY JOURNEY

why this course

LEARNING EXPERIENCE



About the course

MUST READ THE HANDBOOK

Department of Chemistry

MSc Green Chemistry and Sustainable Industrial Technology

Handbook and Assessment Guide 2021-2022

Module

- PRININCIPLES OF GREEN CHEMISTRY
- APPLICATION OF GREEN CHEMISTRY
- TRANSFERABLE SKILLS
- COMMERCIALISATION OF GREEN CHEMISTRY
- GREEN CHEMISTRY RESEARCH PROJECT

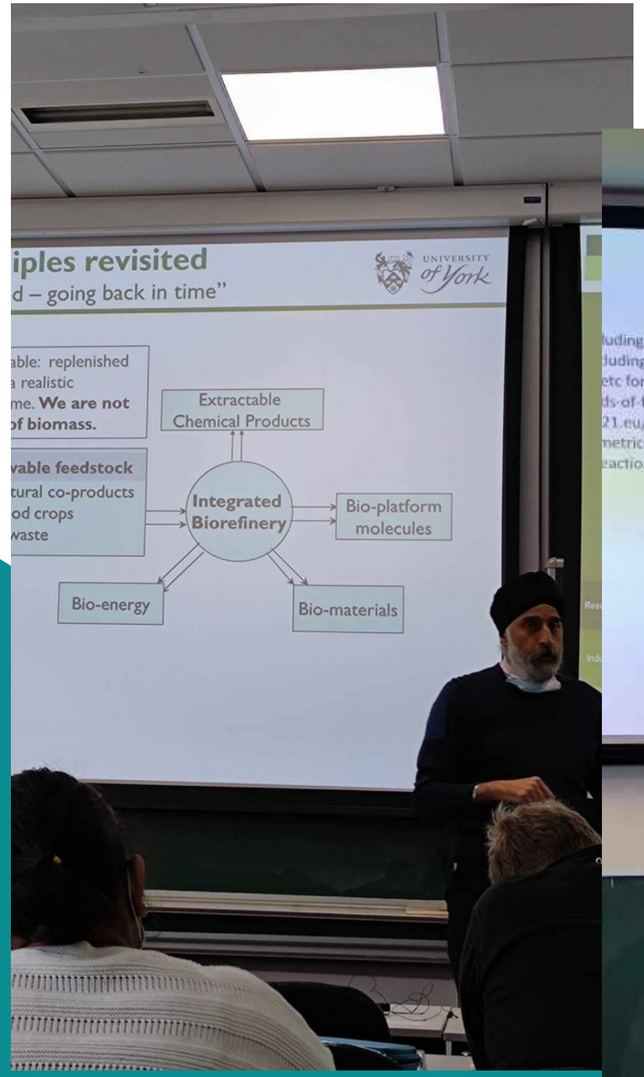
Assessment

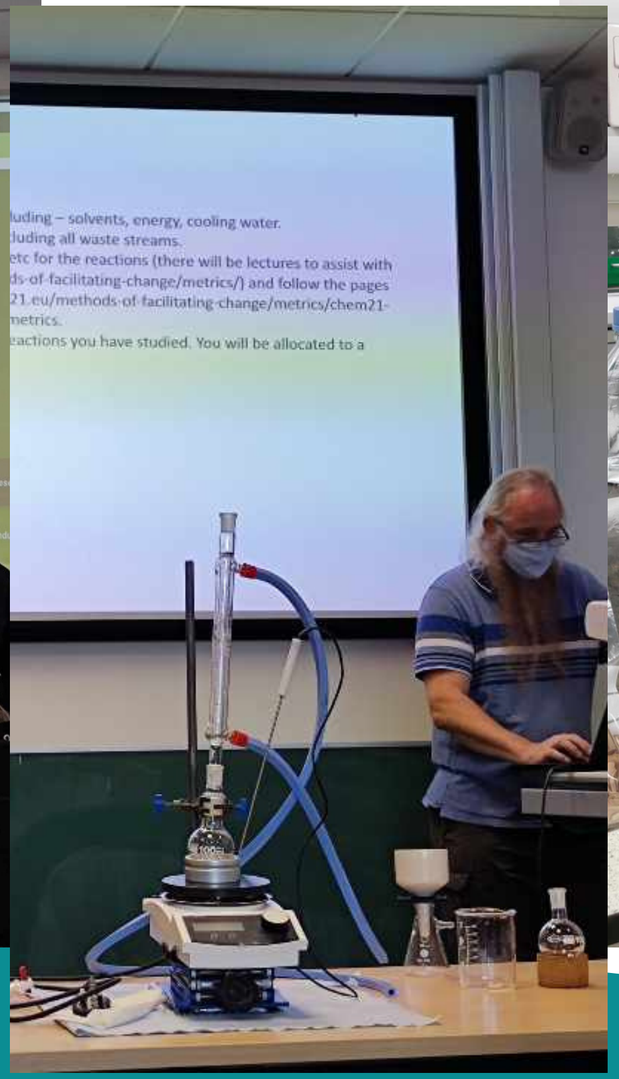
GRADUATE MARK SCALE

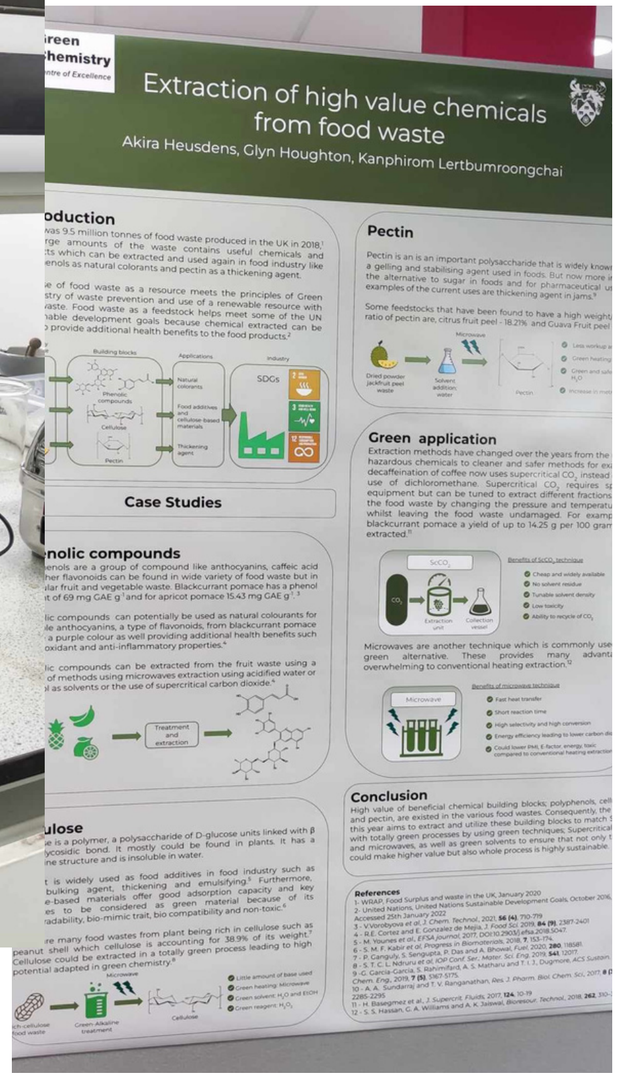
- 70-100 DISTINGUISHED PERFORMANCE
- 50-69 GOOD PERFORMANCE
- 40-49 SATISFACTORY PERFORMANCE
- 0-39 FAIL

Took course

KANPHIROM LERTBUMROONCHAII

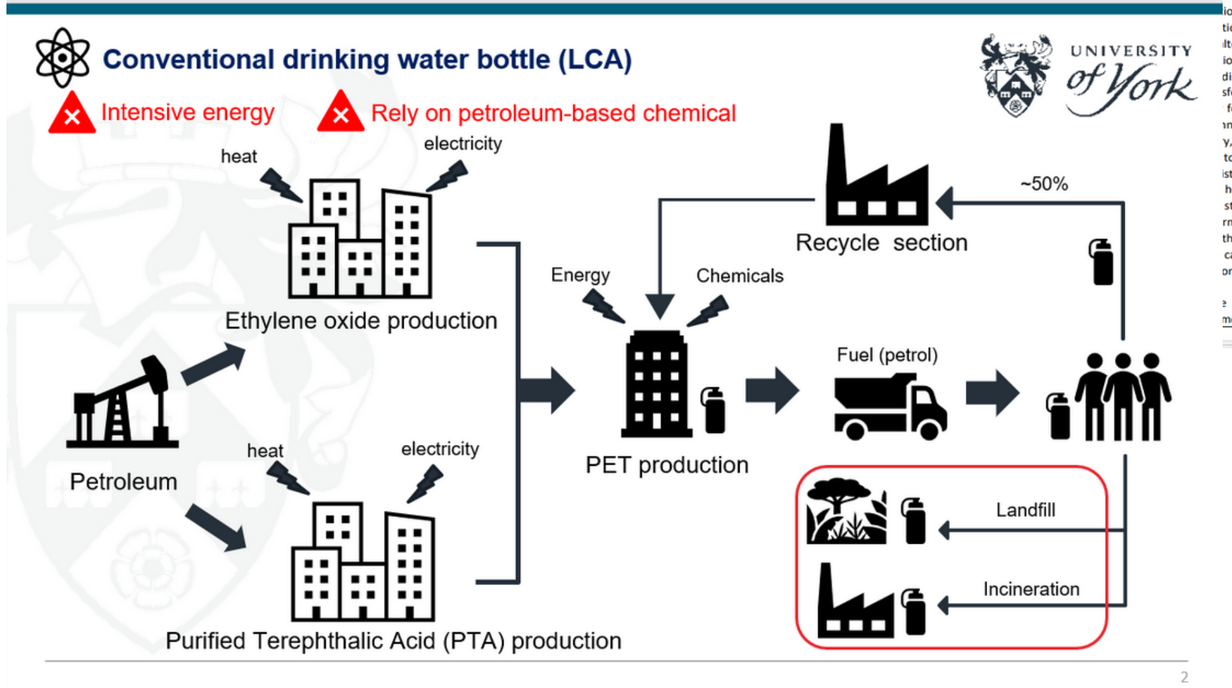






Took course

LECTURE



COMMUNICATION

Green evaluation of 4-methoxyacetophenone via Friedel-Crafts Acylation of Anisole by heterogeneous-Aluminium catalyst (MOR) with microwave-assisted technique

Received 00th January 20xx,
Accepted 00th January 20xx

DOI: 10.1039/x0xx00000x

Kanphriom Lertbumroongchai*

Fridel-craft acylation of anisole with acetic anhydrous to produce 4-methoxyacetophenone has been studied in comparison between aluminiun homogeneous catalyst as $AlCl_3$ and heterogeneous catalyst as Mordenite zeolite (MOR). The efficiency heating for the experiment of heterogeneous catalyst has been tested to compare

alumina, silica, titania, zirconia, zeolites, and clays. Furthermore, this type of catalyst could provide the k advantages such as more selectivity, milder condition, reduci waste and being cheap.[10] Recently, Mordenite Zeolite (MOR) an aluminium heterogenous catalyst has been studied and t result show of a high %yield and %conversion in conventior ion.[11] Therefore, heating is necessary for tion for MOR. Microwave radiation as a heati lternative way to perform FC reaction und ions. In addition, microwave radiation cou disadvantages of conventional heating that a sfer, long reaction time, energy inefficient ar formation of side products.[12-13] Consequent nique is greener according to the 6th principle y, Design for Energy Efficiency. Consequent to evaluate how green of FC using MOR assist isted heating.

how green of homogeneous and heterogeneo study, synthesis of 4-methoxyacetophenone (rmed via Friedel-craft acylation by using anisc th acetic anhydride (**2**) with aluminiu catalysis (**Table 1**) in DCM and toluene. T onfirmed by GC and FT-IR.

e reaction result of using aluminium mogeneous catalyst in different solvent.

Activity 3: New chemical reactor types

Introduction

In modern chemistry generation, there are more focusing on flow reactors, which aim to replace using batch reactors which is conventional reactors widely used in industries. The conventional batch reactors have many common limitations such as safety, reaction time, selectivity, and reactor size.[1,2] Thus, flow chemistry plays an important role to overcome these issues offering many advantages such as accurate reaction parameter control, reduced reaction times and waste, excellent yields and selectivity, process intensification, enhanced process safety, reaction screening, optimization and automation, integration of in-line analytics for real time analysis, and high reaction throughput even though there are some challenges in solids as starting materials, products and or by-products, integration of in-line purification techniques, changing the batch mind set and the cost and availability of flow equipment.[2,3] This report aims to point the advantages of recent chemical reactor types such as microreactors.

Flow microreactors

Recently, modernized reactors are developed remarkably in microreactors which offers many advantages over large-scale reactors, as related to energy efficiency, the velocity of reactions, and the total output of products in micro space.[4] Consequently, flow microreactor plays an important role to combine the advantages of flow chemistry and microreactor leading to more benign environment. In addition, there are different materials used to construct microreactor which provide different advantages and disadvantages in term of material's limitation.[5] (**Table 1**)

Table 1 Advantages and disadvantages of material used to construct microreactors[5]

Materials	Advantages	Disadvantages
Metals	1. Cleaned room is not needed 2. Design for long last using 3. Unshakable fabrication performances	1. Auxiliary through noble metals material 2. Concerns with variable pressure

Assessment FEEDBACK

MSc Green Chemistry and Sustainable Industrial Technology:
Assessment Feedback: Agreed Marks

Application of Green Chemistry CHE00002M	
Renewable Resources practical	
Student name	Kanphirom Lertbumroongchai
First marker	Rob McElroy
Second marker	Tom Dugmore

Markers: please provide the agreed marks for each component and the overall agreed mark for the assignment. This agreed mark sheet, and the comments and feedback will be provided to the student.

	Agreed marks between markers	**Maximum mark**
Performance during practical	8	10
Answers to microwave questions	8	10
Answers to soxhlet based questions	22	25
Answers to steam distillation based questions	15	20
Answers to supercritical CO2 based questions	12	15
Answers to critical analysis questions	17.5	20
Total **Agreed mark for this assignment**	**82.5**	**100**

All marks are provisional and are subject to approval by the external examiner and ratification by University Senate.

MSc Green Chemistry and Sustainable Industrial Technology:
Assessment Feedback: Agreed Marks

Application of Green Chemistry CHE00002M	
Clean Synthesis Practical	
Student name	Kanphirom Lertbumroongchai
First marker	Avtar Matharu
Second marker	Duncan Macquarrie

Markers: please provide the agreed marks for each component and the overall agreed mark for the assignment. This agreed mark sheet, and the comments and feedback will be provided to the student.

	Agreed marks between markers	**Maximum mark**
Scientific standard of publication (Chem Comm) Introduction and aims	26	30
General style of publication, in particular appropriate use of tables, illustrations, references etc	15.5	20
Results and discussion	40	50
Total **Agreed mark for this assignment**	**81.5**	100

All marks are provisional and are subject to approval by the external examiner and ratification by University Senate.

Project RESEARCH

Sustainable development goals (SDGs) of this research

UNIVERSITY of York

Cellulose based hydrogel

Phenolic compounds

Soil conditioning

Drug delivery

Water treatment

Pharmaceutical agents

2 ZERO HUNGER

3 GOOD HEALTH AND WELL-BEING

6 CLEAN WATER AND SANITATION

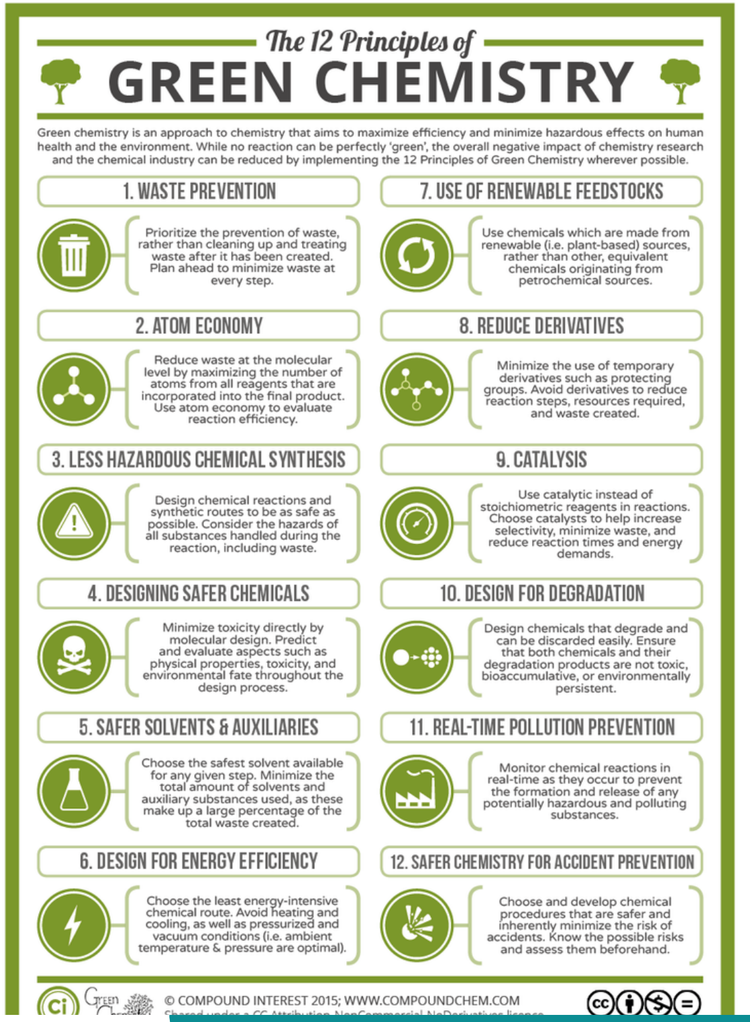
3 GOOD HEALTH AND WELL-BEING

Goal 12 Responsible consumption

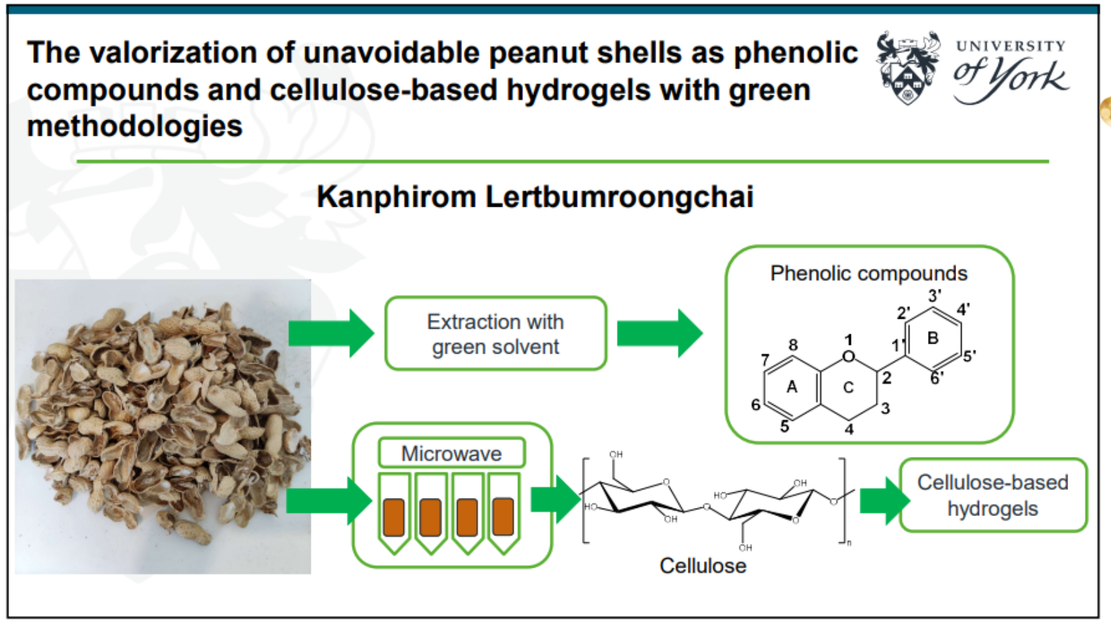
Goal 2 Zero hunger

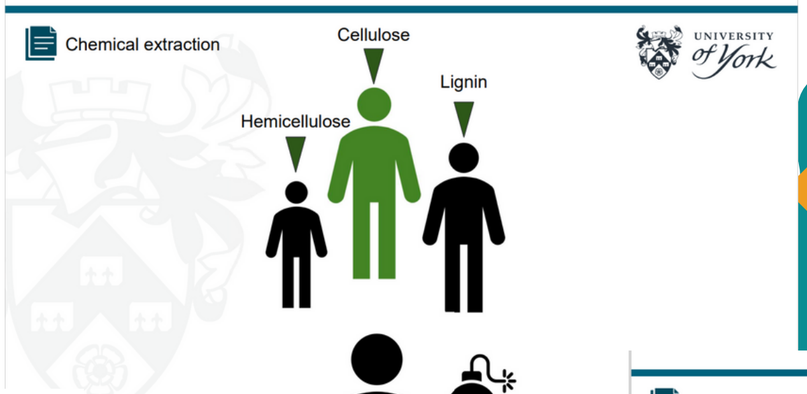
Goal 3 Good health and well-being

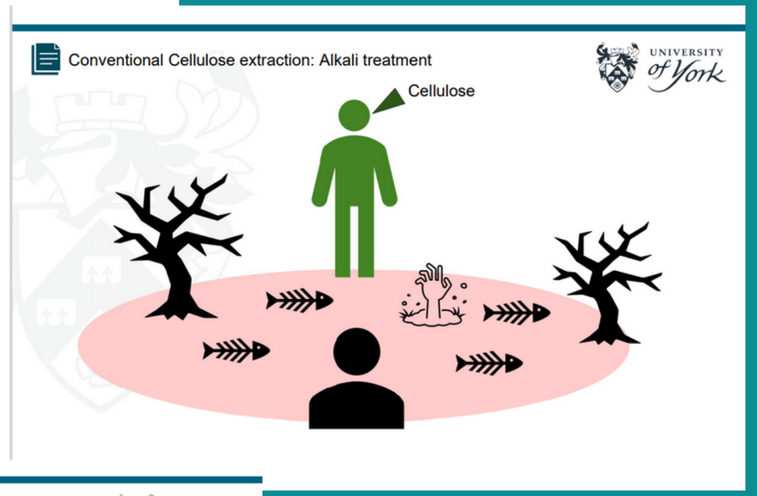
Goal 6 Clean water and sanitization

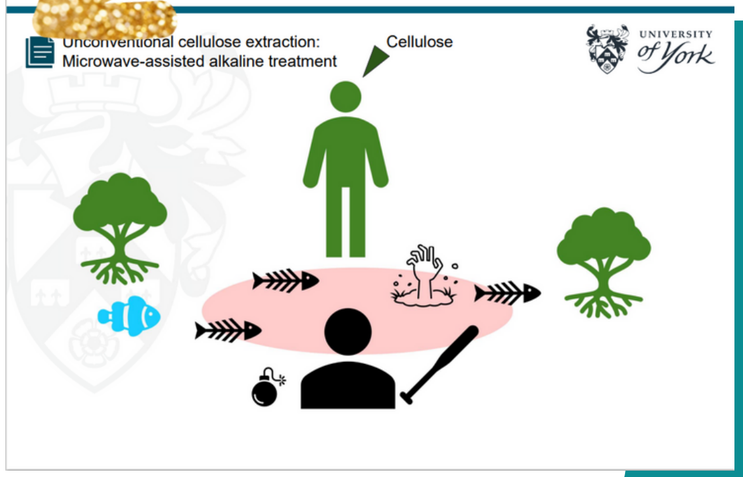


Project RESEARCH









York city

DIAGON ALLEY FROM THE MOVIE ADAPTATION OF THE HARRY POTTER SERIES

Shamble

Thai people

THAI SOCIETY OF YORK

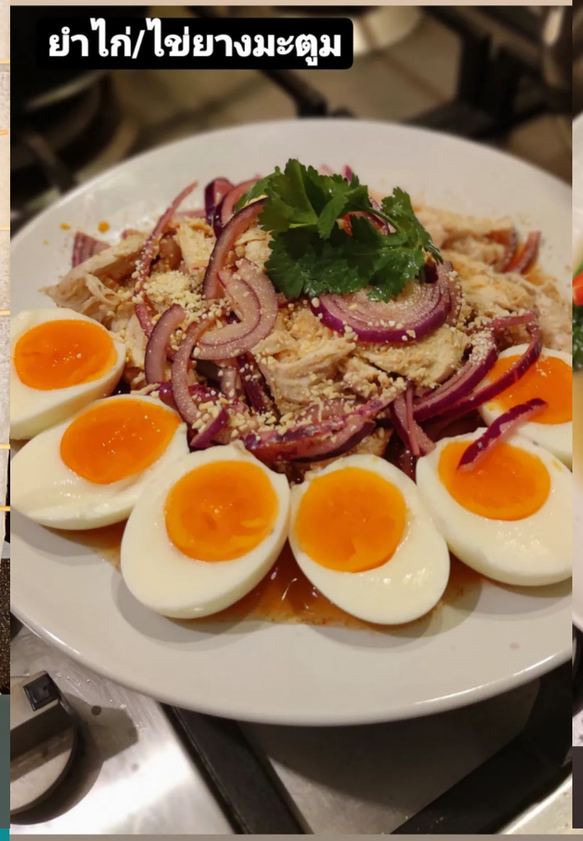
Shamble

Thai cooking

KANPHIROM LERTBUMROONCHAII

Thai cooking

KANPHIROM LERTBUMROONCHAII



Thai cooking

KANPHIROM LERTBUMROONCHAII

Travelled in UK

KANPHIROM LERTBUMROONCHAII

THANK *You*

FOR YOUR ATTENTION