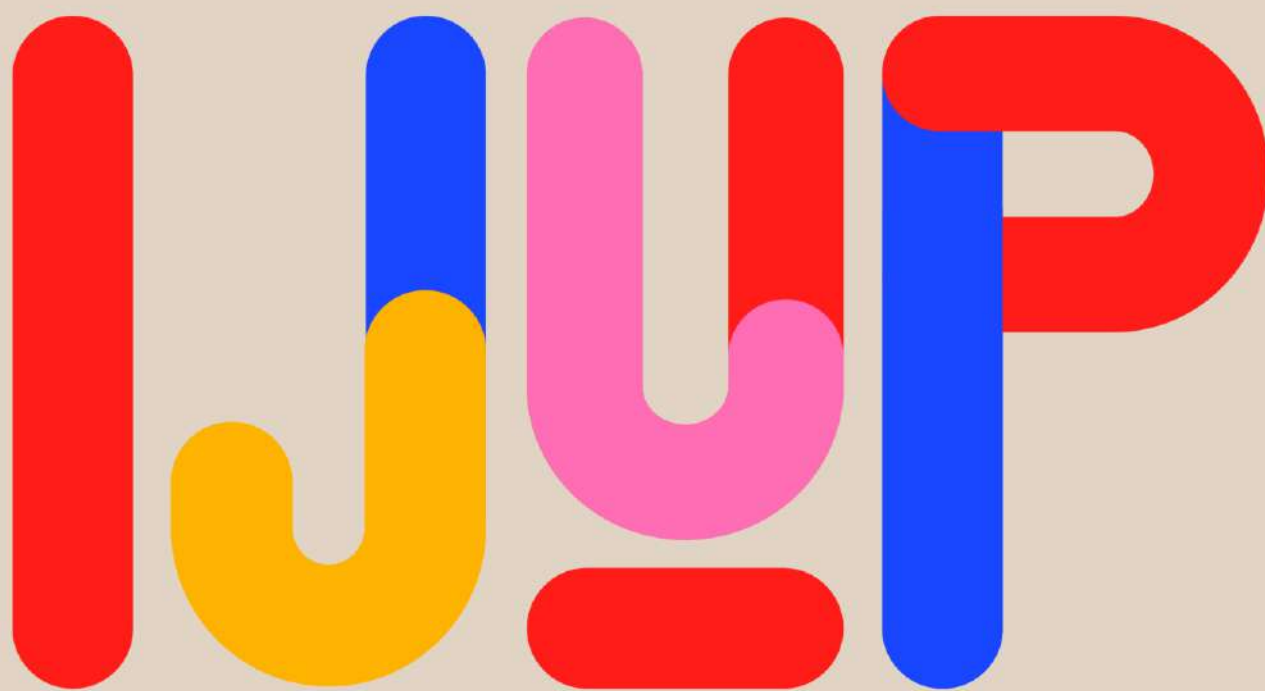


Encontro Investigação Jovem da Universidade do Porto

BOOK OF
ABSTRACTS

06 - 07 - 08
Maio 2026

19.^a Edição



ORGANIZAÇÃO



APOIO

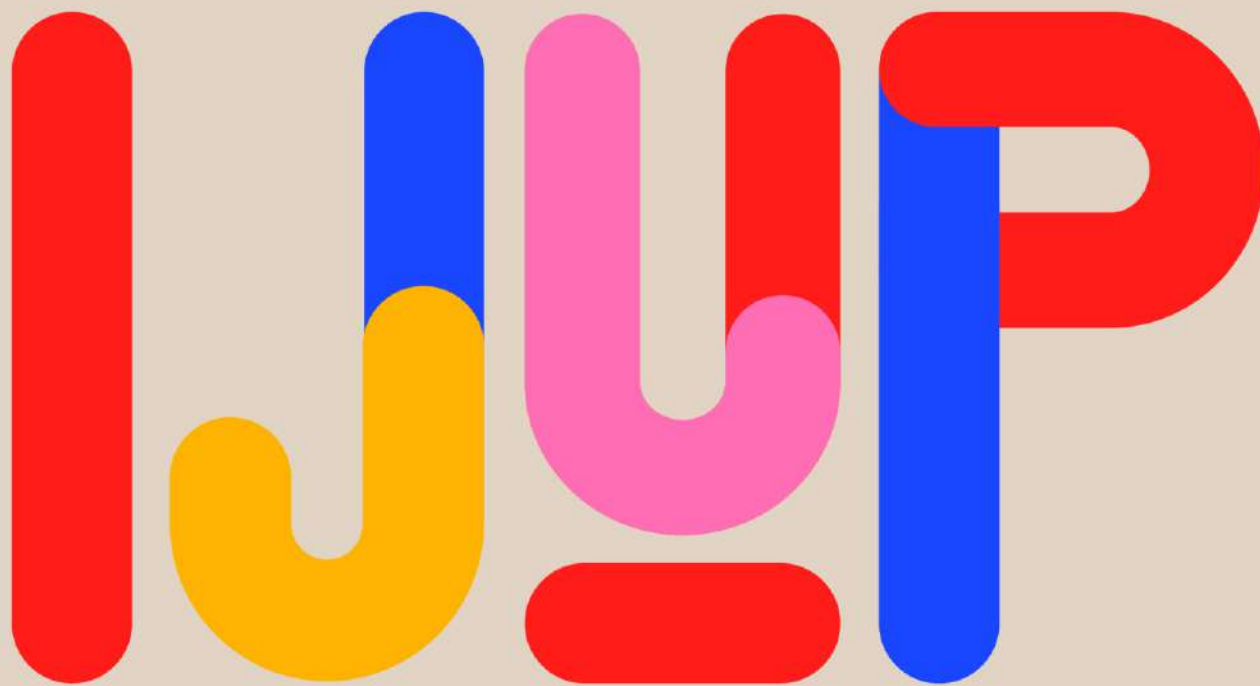


Encontro Investigação Jovem da Universidade do Porto

**YOUNG
RESEARCHERS
MEETING**

**06 - 07 - 08
Maio 2026**

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ORGANIZAÇÃO



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TÍTULO | TITLE

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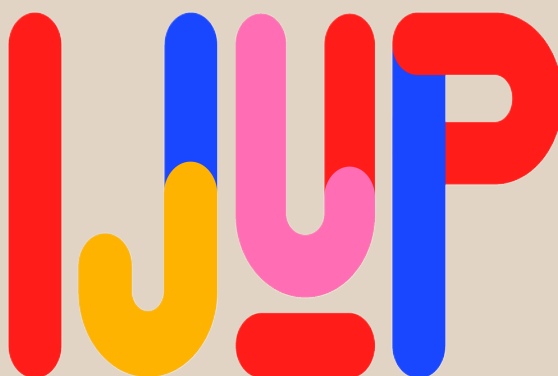
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PROGRAM

06 - 07 - 08
Maio 2026

19.^a EDIÇÃO

May, 6th

May, 7th

May, 8th

8H	Opening of the secretariat for all participants		
8H30 > 10H30	PARALLEL ORAL SESSIONS I A1 – Criminology and Law I A2 – Health Sciences I A3 – Sport Sciences I A4 – Architecture I A5 – Engineering I A6 – Biological Sciences I	PARALLEL ORAL SESSIONS IV A1 – AgroFood I A2 – Health Sciences IV A3 – Sport Sciences III A4 – Astronomy A5 – Chemistry I A6 – Biological Sciences IV	PARALLEL ORAL SESSIONS VII A1 – Arts I A2 – Health Sciences VII A3 – HSS IV – History, Archeology, Cultural Studies and Communication Sciences A4 – Physics I A5 – Chemistry III A6 – Biological Sciences VII
10H30 > 11H	Coffee Break		
11H > 13H	PARALLEL ORAL SESSIONS II A1 – Criminology and Law II A2 – Health Sciences II A3 – Sport Sciences II A4 – Architecture II A5 – Engineering II A6 – Biological Sciences II	PARALLEL ORAL SESSIONS V A1 – AgroFood II A2 – Health Sciences V A3 – Sport Sciences IV A4 – Maths & Physics A5 – Engineering IV A6 – Biological Sciences V	PARALLEL ORAL SESSIONS VIII A1 – Environment II A2 – Health Sciences VIII A3 – Psychology & Education Sciences III A4 – Physics II A5 – Chemistry IV A6 – Economics & Management
13H > 14H30	Lunch Break		
14H30 > 16H	POSTER SESSION I Architecture Biological Sciences I Criminology and Law Engineering I Health Sciences I Sport Sciences I	POSTER SESSION II AgroFood Biological Sciences II Chemistry Engineering II Health Sciences II Sport Sciences II	POSTER SESSION III Arts Astronomy, Physics & Maths Economics & Management Environment & Geology Health Sciences III History & Sociology Psychology & Education Sciences
16H > 16H30	Coffee Break		
16H30 > 18H30	PARALLEL ORAL SESSIONS III A1 – HSS I – Political Sciences A2 – Health Sciences III A3 – Psychology & Education Sciences I A4 – HSS II – Political Sciences, Sociology and Geography A5 – Engineering III A6 – Biological Sciences III	PARALLEL ORAL SESSIONS VI A1 – Environment I A2 – Health Sciences VI A3 – Psychology & Education Sciences II A4 – HSS III – History of Art A5 – Chemistry II A6 – Biological Sciences VI	PARALLEL ORAL SESSIONS IX A1 – Arts II A2 – Health Sciences IX A3 – Psychology & Education Sciences IV A4 – HSS V – History A5 – HSS VI – Literature and Philosophy A6 – Health Sciences X

A Universidade do Porto tem procurado consolidar-se como a melhor instituição de ensino superior em Portugal, tornando-se capaz de captar os melhores alunos, proporcionar uma formação de excelência aos seus estudantes, promover a inovação, atrair talento internacional e criar conhecimento passível de alavancar o progresso e o bem-estar da comunidade. Tornámo-nos, deste modo, líderes da produção científica nacional, com mais de 600 patentes ativas e cerca de 30.000 artigos indexados na Web of Science (24% do total nacional), o que não seria possível sem o essencial estímulo à investigação, que procuramos aprofundar desde os primeiros anos de estudo.

Iniciativa pioneira em Portugal, o IJUP–Encontro de Investigação Jovem da Universidade do Porto constitui uma peça-chave desta estratégia, na medida em que procura impulsionar e dar visibilidade ao trabalho científico desenvolvido pelos estudantes nas mais diversas áreas do saber. Porventura mais importante, permite-lhes adquirir e desenvolver um conjunto de competências que serão decisivas para a sua futura vida profissional.

Este ano na sua 19ª edição, o IJUP voltou a suscitar o interesse de um grande número de estudantes, comprovando que a geração de talento científico depende, em grande medida, da nossa capacidade para suscitar e estimular a curiosidade dos nossos estudantes e o seu gosto pela investigação. Para tal contamos com o trabalho empenhado dos docentes e técnicos que asseguram a efetiva transposição da teoria das salas de aulas para a experiência concreta do trabalho de pesquisa

Cabe-me, por isso, expressar o reconhecimento da academia pelo esforço de todos os envolvidos no processo virtuoso que permite a investigação jovem na Universidade do Porto, esperando que esta edição do IJUP possa, para muitos estudantes, constituir um primeiro momento de efetiva integração no contínuo esforço que tem procurado estabelecer os fundamentos técnicos, científicos, culturais e éticos da civilização humana.

António de Sousa Pereira

Reitor da Universidade do Porto

ORAL SESSIONS

	Pag.
AgroFood	9
Architecture	40
Arts	62
Astronomy, Physics & Maths	102
Biological Sciences	151
Chemistry	245
Criminology and Law	300
Economics and Management	318
Engineering	333
Environment	381
Health Sciences	407
Humanities and Social Sciences	546
Psychology and Educational Sciences	630
Sport Sciences	671

POSTER SESSIONS

	Pag.
AgroFood	715
Architecture	739
Arts	763
Astronomy, Physics & Maths	793
Biological Sciences	813
Chemistry	965
Criminology and Law	1011
Economics and Management	1036
Engineering	1040
Environment	1120
Health Sciences	1140
Humanities and Social Sciences	1425
Psychology & Education Sciences	1451
Sport Sciences	1513

24401 | Hydrodeoxygenation of a Furfural-Levulinic Acid Condensation Product for the Synthesis of Aviation Fuel Precursors

Madalena Wu¹; Karoline K. Ferreira¹; M. Fernando R. Pereira¹; Lucília S. Ribeiro¹

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Background & Aim: Lignocellulosic biomass is a renewable carbon source for producing advanced fuels that can reduce dependence on fossil resources and lower greenhouse gas emissions [1]. This work aimed to produce aviation fuel precursors from levulinic acid and furfural, key molecules derived from biomass. **Methods:** A sodium hydroxide catalyzed condensation reaction was carried out between levulinic acid and furfural, according to Amarasekara et al. [2], to obtain the solid reaction substrate. The solid product was purified by Soxhlet extraction using cyclohexane as the extraction solvent for 4 h. Purified and crude product were analyzed by gas chromatography-mass spectrometry (GC-MS). Bi- and monometallic catalysts composed of 2.5% Co-10.5% Mo and 5% Ru supported on carbon nanotubes (CNT) and alumina were synthesized and denoted as Co-Mo/CNT and Ru/Al₂O₃, respectively. The hydrodeoxygenation (HDO) reaction was conducted in a batch reactor using 0.5 g of substrate, 50 mL of n-decane, and 0.25 g of Co-Mo/CNT at 350 °C, 30 bar of H₂, 300 rpm for 6 h [3]. This reaction was also performed using 1.0 g of substrate and 0.2 g of Ru/Al₂O₃ in 30 mL of water at 260 °C and 40 bar of H₂ [4]. The resultant liquid phase was analyzed by GC-MS. **Results:** The crude product mass was 0.9426 g (48.5 % yield). GC-MS showed similar spectra for crude and purified samples, indicating cyclohexane purification is unnecessary. Peaks observed at 11.1, 12.2 and 12.7 min correspond to compounds with molecular formulas C₁₅H₂₄O, C₉H₁₀O₂ and C₁₀H₁₀O₄, respectively. In n-decane, the main product was a lactone, C₁₅H₂₂O₂, whereas in water, products included alkanes, furanones, lactones and aromatic derivatives among C₈-C₁₅ hydrocarbons. **Conclusions:** A purification step is not necessary, as the crude product exhibited comparable composition to the purified material. This condensation reaction produces a key precursor that, upon HDO, yields products suitable for aviation fuel, demonstrating the potential of this approach.

Keywords: condensation; hydrodeoxygenation; aviation fuel; levulinic acid; furfural

Acknowledgments:

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