CARBYNE

New carbon reactivity rules for molecular editing

Timeline | 09/2020 to 08/2025

Budget | 2,000,000 €

ICIQ People | Marcos G. Suero Research Group

https://cordis.europa.eu/project/id/865554

Call | H2020-ERC-2019-COG

SUMMARY

Wonderful world of carbon chemistry on verge of major breakthrough

Carbon forms the backbone of all organic compounds. Carbon nanomaterials such as graphene (sheets of carbon one atom thick) and carbon nanotubes (resembling rolled up tubes of graphene) have received tremendous attention for their unique mechanical and electrical properties. Now, carbyne has surpassed both as the strongest material in the world. This infinitely long linear chain of carbon – literally one-dimensional – has great potential for energy storage, nanoelectronics/spintronic devices and mechano-electrical systems. However, it is extremely unstable and only a small amount of carbyne has been synthesised to date. The EU-funded **CARBYNE** project is developing novel catalytic pathways for the production of carbyne equivalents and related species, to enhance application of these unique and promising materials in numerous fields.

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