附件四、技術說明表

第1多通道氣體微流量及異相催化反應與特性分析控制系統

提案人: 劉雅瑄 教授 單 位: 國立臺灣大學 地質科學系 簡 歷:https://www.nanoenv.gl.ntu.edu.tw/

市場及需求:這是寡占市場,相關的反應分析設備 皆被國外原廠把持,不僅價格昂貴,同時又具備高 度專一性,因此本案所申請之產品不僅於傳統學術 領域中需求強勁,更於高科技研發領域以及化工製 成加工上具有十分重要的角色。



技術摘要(含成果):多通道以及相關管路設計可因應 TPR/TPO/TPD 等各項反應 過程中所需的不同氣體組成,包含前處理、反應前 purge 以及 TPR/TPO/TPD 等反應,更甚反應後的 purge 等。

優勢:多通道設計適合因應多種不同反應需求,迅速拆卸組裝、造價便宜、方 便攜帶與移動

競爭產品: MCA Services Temperature Programmed Analytical Options & Micromeritics AutoChem

專利現況:

團隊的技術仍在研發當中,部分專利亦正在申請中。

聯絡方式(請不用填):

臺大產學合作總中心 Tel: 02-3366-9945, E-mail: ordiac@ntu.edu.tw

本資料僅供國立臺灣大學專利/技術申請使用,嚴禁使用全部或部分內容於其他用途。若有疑問請與我們聯繫, 我們將盡力協助您。



Multi-Channel Micro-Flow and Heterogeneous Catalytic Reaction and Characteristic Analyst Controller System

PI: Sofia Ya-Hsuan Liou, Ph.D. Professor
Department of Geoscienct, National Taiwan U.
Experience: https://www.nanoenv.gl.ntu.edu.tw/

Market Needs: This is an oligopolistic market where the relevant reaction analysis equipment is monopolized by foreign manufacturers. These devices are not only expensive but also highly specialized. Therefore, the products applied for in this case are in strong demand not only in traditional academic fields but also play a crucial role in high-tech research and development, as well as in chemical processing and manufacturing.



Our Technology: The multi-channel and associated pipeline design can accommodate the different gas compositions required during various reaction processes such as TPR (Temperature Programmed Reduction), TPO (Temperature Programmed Oxidation), and TPD (Temperature Programmed Desorption). This includes pre-treatment, pre-reaction purging, the TPR/TPO/TPD reactions themselves, and post-reaction purging.

Strength: The multi-channel design is suitable for addressing various reaction needs, featuring rapid disassembly and assembly, low cost, and ease of portability and mobility.

Competing Products: MCA Services Temperature Programmed Analytical Options & Micromeritics AutoChem

Intellectual Properties: Although there are related patent technologies in the country, there is still a significant difference in substantive nature. The relevant patents in the China National Intellectual Property Administration, such as 200980118159, 201110135700, 201210371122, 201721301623, and 202180018464, mainly focus on the design of reactors. In contrast, this case emphasizes the control of gas compositions and the integration of systems. Furthermore, there are no related patent technologies domestically, and during the research and development process, our research team continuously innovates and improves.

Contact (do not need to fill out):

This information herein is intended for potential license of NTU technology only. Other usage of all or portion of this information in whatever form or means is strictly prohibited. Kindly contact us and we will help to achieve your goal the best we can.