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[Continued on next page]

- (54) Title: PROCESS FOR THE SELECTIVE ELECTROCHEMICAL CONVERSION OF CO₂ INTO C₂ HYDROCARBONS

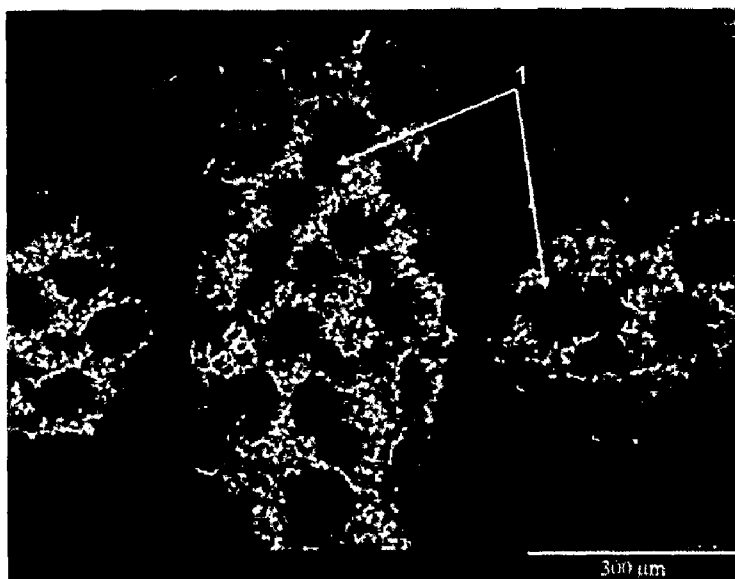


Figure 2

(57) Abstract: A process for the selective electrochemical conversion of carbon dioxide into hydrocarbons, namely C₂ hydrocarbons is presented. The process is carried out in an electrochemical cell where the cathode is a modified electrode with copper electrodeposits in order to improve the catalytic activity and selectivity of the system. The formation of a mixture of C₂ hydrocarbons (C₂H₄ and C₂H₆) without methane is successfully obtained on specific higher surface area electrodeposits. Additionally, ethylene is selectively produced in detriment of ethane. The *ex-situ* copper electrodeposit leads to the steadiness of carbon dioxide reduction process, i.e., the stability of hydrocarbons production due to the weak deactivation of the cathode.



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ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
C25B C25D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Further documents are listed in the continuation of Box C.



See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

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International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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