

Title (en)
ELECTROMAGNETIC CONTROL OF CHEMICAL CATALYSIS

Title (de)
ELEKTROMAGNETISCHE STEUERUNG CHEMISCHER KATALYSE

Title (fr)
CONTROLE ELECTROMAGNETIQUE DE CATALYSE CHIMIQUE

Publication
EP 1694822 A2 20060830 (EN)

Application
EP 04818015 A 20041214

Priority
• US 2004041832 W 20041214
• US 52986903 P 20031215

Abstract (en)
[origin: WO2005060635A2] The present disclosure methods and systems that provide heat, via at least Photon-Electron resonance, also known as excitation, of at least a particle utilized, at least in part, to initiate and/or drive at least one catalytic chemical reaction. In some implementations, the particles are structures or metallic structures, such as nanostructures. The one or more metallic structures are heat at least as a result of interaction of incident electromagnetic radiation, having particular frequencies and/or frequency ranges, with delocalized surface electrons of the one or more particles. This provides a control of catalytic chemical reactions, via spatial and temporal control of generated heat, on the scale of nanometers as well as a method by which catalytic chemical reaction temperatures are provided .

IPC 8 full level
C07C 7/00 (2006.01); **C23C 8/00** (2006.01); **C23C 16/00** (2006.01)

CPC (source: EP KR)
B01J 19/0046 (2013.01 - EP); **C23C 16/48** (2013.01 - KR); **C23C 16/483** (2013.01 - EP KR); **C23C 16/511** (2013.01 - KR); **C23C 16/52** (2013.01 - KR); **B01J 2219/00495** (2013.01 - EP); **B01J 2219/00527** (2013.01 - EP); **B01J 2219/00747** (2013.01 - EP); **B82Y 30/00** (2013.01 - EP KR)

Citation (search report)
See references of WO 2005060635A2

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA HR LV MK YU

DOCDB simple family (publication)
WO 2005060635 A2 20050707; **WO 2005060635 A3 20070503**; AU 2004305048 A1 20050707; CA 2549475 A1 20050707; CN 101090990 A 20071219; CN 1894438 A 20070110; EP 1694822 A2 20060830; JP 2007525315 A 20070906; KR 20070026370 A 20070308; ZA 200604251 B 20080528

DOCDB simple family (application)
US 2004041832 W 20041214; AU 2004305048 A 20041214; CA 2549475 A 20041214; CN 200480037309 A 20041214; CN 200480037364 A 20041214; EP 04818015 A 20041214; JP 2006544100 A 20041214; KR 20067014444 A 20060718; ZA 200604251 A 20041214