

Contents

1	Introduction and General Overview	1
	Gabriele Centi, Paola Lanzafame, and Siglinda Perathoner	
2	Catalytic Production of Liquid Hydrocarbon Transportation Fuels.....	29
	Juan Carlos Serrano-Ruiz and James A. Dumesic	
3	Utilization of Biogas as a Renewable Carbon Source: Dry Reforming of Methane	57
	Christina Papadopoulou, Haris Matralis, and Xenophon Verykios	
4	Reforming of Ethanol.....	129
	András Erdőhelyi	
5	Methanol Steam Reforming.....	175
	Malte Behrens and Marc Armbrüster	
6	Biodiesel Production Using Homogeneous and Heterogeneous Catalysts: A Review.....	237
	Ajay K. Dalai, Titipong Issariyakul, and Chinmoy Baroi	
7	Heterogeneous Catalysts for Converting Renewable Feedstocks to Fuels and Chemicals.....	263
	Karen Wilson, Adam F. Lee, and Jean-Philippe Dacquin	
8	Catalytic Combustion of Methane.....	305
	Naoto Kamiuchi and Koichi Eguchi	
9	The Status of Catalysts in PEMFC Technology.....	329
	M. Aulice Scibioh and B. Viswanathan	
10	Catalysis for Direct Methanol Fuel Cells	369
	C. Bock, B. MacDougall, and C.-L. Sun	

11 Some Colloidal Routes to Synthesize Metal Nanoparticle-Based Catalysts.....	413
Szilvia Papp, László Kőrösí, Rita Patakfalvi, and Imre Dékány	
12 Synthesis, Structure, and Photocatalytic Activity of Titanium Dioxide and Some of Its Surface-Modified Derivatives.....	459
László Kőrösí, Szilvia Papp, and Imre Dékány	
13 Photocatalysis: Toward Solar Fuels and Chemicals.....	491
Guido Mul	
14 Concluding Remarks and Future Perspectives.....	513
András Tompos	
Index	525



<http://www.springer.com/978-1-4614-0343-2>

Catalysis for Alternative Energy Generation

(Eds.) L. Guczi; A. Erdőhelyi

2012, XIII, 536 p. 185 illus., 48 in color., Hardcover

ISBN: 978-1-4614-0343-2