(51) **Int. Cl.**

B09B 3/00	(2006.01)
C10L 3/08	(2006.01)
C10L 5/44	(2006.01)
B01J 39/02	(2006.01)
C10B 53/02	(2006.01)
C10J 3/78	(2006.01)
C10L 9/08	(2006.01)
B01J 19/14	(2006.01)
B01J 23/46	(2006.01)
B01J 21/18	(2006.01)
B01J 23/78	(2006.01)
B01J 23/75	(2006.01)

(52) **U.S. Cl.**

CPC . *Y02E 50/14* (2013.01); ***C10L 3/08*** (2013.01); ***C10L 5/44*** (2013.01); *B01J 23/462* (2013.01); *C10J 2300/0923* (2013.01); *B01J 21/18* (2013.01); ***B01J 39/02*** (2013.01); ***C10B 53/02*** (2013.01); ***C10J 3/78*** (2013.01); ***B09B 3/00*** (2013.01); *C10J 2300/0916* (2013.01); *Y02E 50/30* (2013.01); *Y02E 50/10* (2013.01); *B01J 23/78* (2013.01); ***C10L 9/086*** (2013.01); *B01J 23/75* (2013.01)

USPC **252/373**

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,657,681	A	4/1987	Hughes	
5,630,854	A	5/1997	Sealock, Jr. et al.	
8,241,605	B2	8/2012	Elliott et al.	
8,608,981	B2 *	12/2013	Elliott et al.	252/373
2006/0265954	A1 *	11/2006	Dogru et al.	48/197 R
2007/0000177	A1	1/2007	Hippo et al.	
2007/0204620	A1	9/2007	Pronske et al.	
2009/0126274	A1	5/2009	Vogel et al.	
2010/0154305	A1	6/2010	Elliott et al.	
2012/0094879	A1	4/2012	Roberts et al.	
2012/0280180	A1	11/2012	Elliott et al.	

OTHER PUBLICATIONS

Elliott et al., "Catalytic Hydrothermal Gasification of Biomass," *Biofuels, Bioproducts, and Biorefining*, vol. 2, pp. 254-265 (Apr. 2008).

Elliott et al., "Catalytic Hydrothermal Gasification of Biomass for the Production of Hydrogen-Containing Feedstock (Methane)," *2nd Symposium of Hydrogen from Renewable Sources and Refinery Applications, Prep. Pap. Am. Chem. Soc., Div. Pet. Chem.*, vol. 53, No. 1, pp. 73-74 (Apr. 2008).

Elliott et al., "Chemical Processing in High-Pressure Aqueous Environments: Low Temperature Catalytic Gasification," *Trans IChemE*, Part A, vol. 74, No. A5, pp. 563-566 (Jul. 1996).

Elliott et al., "Chemical Processing in High-Pressure Aqueous Environments. 4. Continuous-Flow Reactor Process Development Experiments for Organics Destruction," *Industrial and Engineering Chemistry Research, American Chemical Society*, vol. 33, No. 3, pp. 566-574 (Mar. 1994).

Elliott et al., "Chemical Processing in High-Pressure Aqueous Environments. 7. Process Development for Catalytic Gasification of Wet Biomass Feedstocks," *Industrial and Engineering Research, American Chemical Society*, vol. 43, No. 9 (Mar. 2004).

Elliott et al., "Low Temperature Conversion of High-Moisture Biomass Continuous Reactor System Results," *Biofuels and Municipal Waste Technology Division, Pacific Northwest Laboratory*, 80 pages (Oct. 1989).

International Search Report and Written Opinion for PCT/US2009/030099 (mailed Dec. 7, 2009).

International Search Report and Written Opinion for PCT/US2013/034552 (mailed Jul. 18, 2013).

Kruse et al., "Biomass Gasification in Supercritical Water: Influence of the Dry Matter Content and the Formation of Phenois," *Industrial & Engineering Chemistry Research, American Chemical Society*, vol. 42, No. 16, pp. 3711-3717 (Jul. 2003).

Matsumura et al., Biomass gasification in near- and super-critical water: Status and prospects, *Biomass & Bioenergy*, vol. 29, pp. 269-292 (Jun. 2005).

Osada et al., "Subcritical Water Regeneration of Supported Ruthenium Catalyst Poisoned by Sulfur," *Energy & Fuels, American Chemical Society*, vol. 22, pp. 845-849 (Jan. 2008).

Overend et al., "Gasification and Liquefaction of Forest Products in Supercritical Water," *Fundamentals of Thermochemical Biomass Conversion*, Elsevier Applied Science Publishers, pp. 95-120 (Jan. 1985).

Peterson et al., "Thermochemical biofuel production in hydrothermal media: A review of sub- and supercritical water technologies," *Energy & Environmental Science*, vol. 1, pp. 32-65 (Jun. 2008).

* cited by examiner