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Stellingen

behorende bij het proefschrift:

Liquefaction of Humins from C₆-Sugar Conversions using Heterogeneous Catalysts

Yuehu Wang

1. The humin structure as proposed by Chuntanapam *et al.* based solely on FT-IR studies is not correct. (Chuntanapam A, Matsumura Y. *Industrial & Engineering Chemistry Research*. **2009**; 48(22): 9837-9846)
2. The molecular structure of humins is not only a function of the solvent applied during synthesis but also depends on the composition of the sugar feed. (Tsilomelekis G, Orella MJ, Lin ZX, Cheng ZW, Zheng WQ, Nikolakis V, Vlachos DG. *Green Chemistry*. **2016**; 18(7): 1983-1993.)
3. The unexplained observation by Kleinert *et al.* that higher amounts of ethanol increase the liquid yield for the solvolysis of lignin in a formic acid/alcohol mixture is likely due to incorporation of ethanol fragments in the product oil. (Kleinert M, Barth T. *Energy & Fuels*. **2008**; 22(2): 1371-1379)
4. The assumption by Knežević *et al.* that the chemical composition of the solid humins and the water-soluble humins obtained after the hydrothermal treatment of glucose is highly unlikely. (Knežević D, van Swaaij WPM, Kersten SRA. *Industrial & Engineering Chemistry Research*. **2009**; 48(10): 4731-4743)
5. The molecular structure of humins obtained from the hydrothermal conversion of glucose catalyzed by strong mineral acids do not resemble that of soil humins (This thesis).
6. Humin formation involves multiple dehydration reactions (This thesis)
7. The Tao that can be told of is not the absolute Tao; The names that can be given are not absolute names. The nameless is the origin of Heaven and Earth; The named is the mother of all things. (Lao-tzu, Tao Te Ching).

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