

289f Comparison of Wet or Flame-Made Hydrogenation Catalysts

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Lindlar catalysts are well established catalysts for the semihydrogenation of alkynes. In the past, large efforts have been made to improve the performance of the semihydrogenation reaction by changing either the support or the catalyst poison. The recently developed flame spray pyrolysis process offers the possibility of manufacturing mesoporous catalytic materials with high specific surface area. This provides improved accessibility and better dispersion of noble metals on the support. In this study we compared flame synthesized catalysts, wet synthesized catalysts and a combination of both. We illustrate that the temperature and method of preparation has a prominent influence on the activity and selectivity of such catalyst. Beyond a direct comparison of differently produced hydrogenation catalysts we introduced a series of non-conventional support material, which was produced by flame synthesis.

Reference: Strobel, R. et al., Flame spray synthesis of Pd/Al₂O₃ catalysts and their behavior in enantioselective hydrogenation. *Journal of catalysis* **222**, 307–14 (2004).