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(54) **SINGLE-LAYER TRANSITION METAL
SULFIDE CATALYSTS**

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(58) **Field of Classification Search** 502/152,
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See application file for complete search history.

(57) **ABSTRACT**

(56) **References Cited**

Transition Metal Sulfides (TMS), such as molybdenum disulfide (MoS₂), are the petroleum industry's "workhorse" catalysts for upgrading heavy petroleum feedstocks and removing sulfur, nitrogen and other pollutants from fuels. We have developed an improved synthesis technique to produce SLTMS catalysts, such as molybdenum disulfide, with potentially greater activity and specificity than those currently available. Applications for this technology include heavy feed upgrading, in-situ catalysis, bio-fuel conversion and coal liquefaction.

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24 Claims, 4 Drawing Sheets

