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**CONTINUOUS AROMATIZATION OF *n*-HEXANE USING Pd/ZSM-5
CATALYST**

Mr. PHARKPOOM KHAMNUANSIRI

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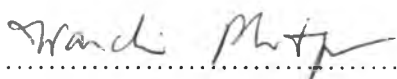
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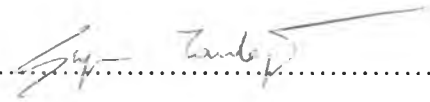
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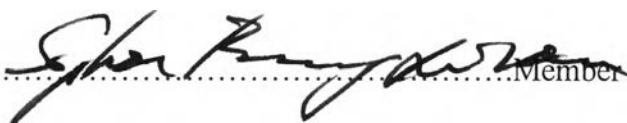
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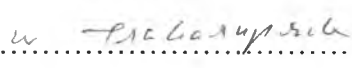
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การศึกษาการทำปฏิกิริยาแอโรแมไทเซชันของสารประกอบ C-6ไฮโดรคาร์บอนบนแพลทินัม/อะลูมินา, สังกะสี/แซทเอสเอ็ม-5 และแพลเลเดียม/แซทเอสเอ็ม-5 แสดงให้เห็นว่าแพลเลเดียม/แซทเอสเอ็ม-5 นั้น มีประสิทธิภาพสูงกว่าตัวเร่งปฏิกิริยาแพลทินัม/อะลูมินา และ สังกะสี/แซทเอสเอ็ม-5 มาก เนื่องจากคุณลักษณะความเป็นกรดและความว่องไวของโลหะที่แตกต่างกันของตัวเร่งปฏิกิริยานั้นๆ ตามลำดับ สภาวะที่เหมาะสมสำหรับเตาปฏิกรณ์แบบต่อเนื่อง คือใช้ตัวเร่งปฏิกิริยา 2% แพลเลเดียม/ซีโอไลต์แซทเอสเอ็ม-5 ที่ 400 องศาเซลเซียส โดยมีอัตราการป้อนสารตั้งต้น 0.4 มิลลิลิตรต่อนาที และนอกจากนี้ การเปลี่ยนแปลงของ นอร์มัลเฮกเซน โดยใช้ตัวเร่งปฏิกิริยาที่อยู่ภายในแซทเอสเอ็ม-5 พบว่ามีความเลือกจำเพาะต่อการเกิดพารา-ไซลีน มากกว่า ออร์โธ-ไซลีน และ เมตา-ไซลีน

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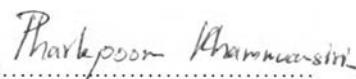
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The study of C-6 hydrocarbon aromatization over Pt/Al₂O₃, Zn/ZSM-5 and Pd/ZSM-5 showed that the Pd/ZSM-5 has much higher activity than Pt/Al₂O₃ and Zn/ZSM-5 catalysts due to their characteristic difference in acidity and sensitivity of metal, respectively. The optimum condition for the continuous reactor was obtained when 2% Pd/ZSM-5 catalyst was used at 400°C with the feed rate of 0.4 ml/min. In addition, conversion of *n*-hexane using the ZSM-5 supporting catalyst was found to be more selective on the production of *p*-xylene than *o*-xylene and *m*-xylene.

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ABBREVIATIONS

BTX	=	benzene, toluene and xylenes
O.D.	=	outer diameter
GC	=	gas chromatography
ZSM-5	=	zeolite Socony Mobile No.5
°C	=	degree of Celsius
ml	=	milliliter
min	=	minute
cm	=	centimeter
NGL	=	natural gas liquid