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นางสาววิไลวรรณ บุญญาวิวัฒน์

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**INVESTIGATIONS OF SOLID-REACTIONS OF CHROMIUM, IRON,
COBALT AND COPPER COMPOUNDS**

MISS WILAIWON BOONYANIWAT

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By : Miss Wilaiwon Boonyawiwat
Department : Chemistry
Thesis Advisor : Archan Rosna Autchakit

Accepted by the Graduate School, Chulalongkorn University
in partial fulfillment of the requirements for the Master's degree.

S. Bunnag
.....Acting Dean of Graduate School
(Assistant Professor Supradit Bunnag, Ph.D.)

Thesis Committee

Sunt Techakumpuch
.....Chairman

(Associate Professor Sunt Techakumpuch, Ph.D.)

Srinuan Thanomkul
.....Member

(Assistant Professor Srinuan Thanomkul, Dr. Ing.)

Proespun Kanatharana
.....Member

(Assistant Professor Proespun Kanatharana, Ph.D.)

Rosna Autchakit
.....Member

(Archan Rosna Autchakit M.Sc.)

หัวข้อวิทยานิพนธ์	การศึกษาปฏิกิริยาในสภาพของแข็งของสารประกอบของโครเมียม เหล็ก โคบอลต์ และทองแดง
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แผนกวิชา	เคมี
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บทคัดย่อ

การศึกษาปฏิกิริยาในสภาพของแข็งของสารประกอบของโครเมียม เหล็ก โคบอลต์ และทองแดง ซึ่งเป็นธาตุทรานซิชันแถวที่หนึ่งโดยสังเกตุจากการ เปลี่ยนสีที่อุณหภูมิห้องและในช่วง อุณหภูมิระหว่าง 50-150 องศาเซลเซียส พร้อมกันนี้ก็ได้มีการ เปรียบเทียบกับปฏิกิริยาที่เกิดขึ้นใน สภาพสารละลายด้วย

การเกิดปฏิกิริยาจะเพิ่มจำนวนมากขึ้นเมื่ออุณหภูมิสูงเกิน 200 องศาเซลเซียส การศึกษาธรรมชาติทางเคมีของผลิตภัณฑ์เกิดวงมีอนานาชนิดทำให้พบสิ่งที่น่าสนใจ ทั้งในแง่ของกลไกและการจัดตัวในผลิตภัณฑ์อันควรแก่การศึกษาเกี่ยวกับวิธีทางการ เปลี่ยนแปลงในสภาพ ของแข็งซึ่งแตกต่างและคิดตามสังเกตได้ง่ายกว่าการ เปลี่ยนแปลงในสภาพสารละลาย

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Name : Miss Wilaiwon Boonyawiwat

Thesis Advisor : Archan Rosna Autchakit

Department : Chemistry

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ABSTRACT

The solid-solid reactions of the first transition metal compounds such as chromium, iron, cobalt and copper compounds were studied by observing the colour change at room temperature and in the range of temperature between 50-150 degree Celcius. The reactions in aqueous solution were studied paralling those in solid phase.

The temperature above 200 degree Celcius increased the amount and number of reactions.

The chemistry of products was studied with several instrumental techniques. There were a lot of interesting phenomena that were worthwhile to study about the process of change in solid state which was different and could be observed more easily than the reaction in aqueous solution.

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