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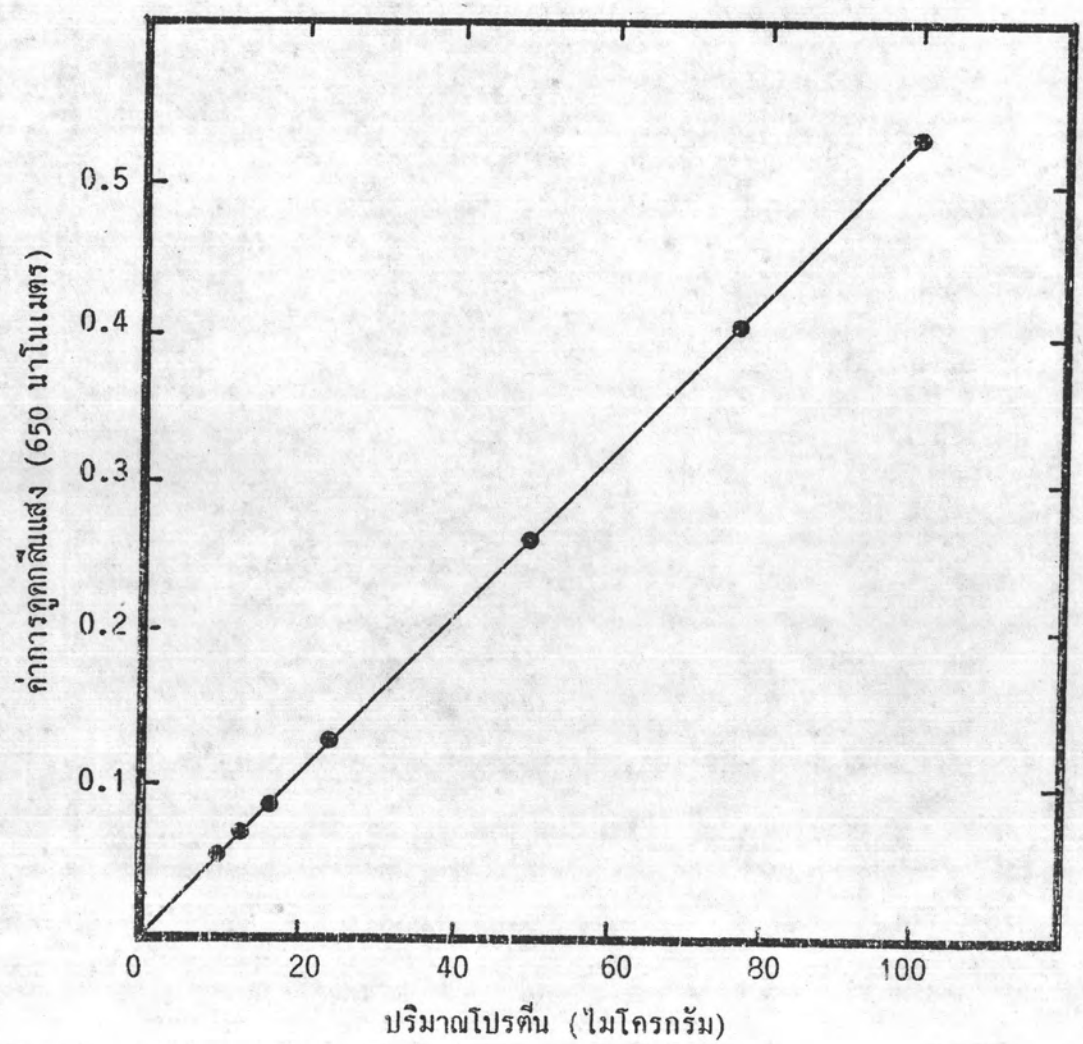
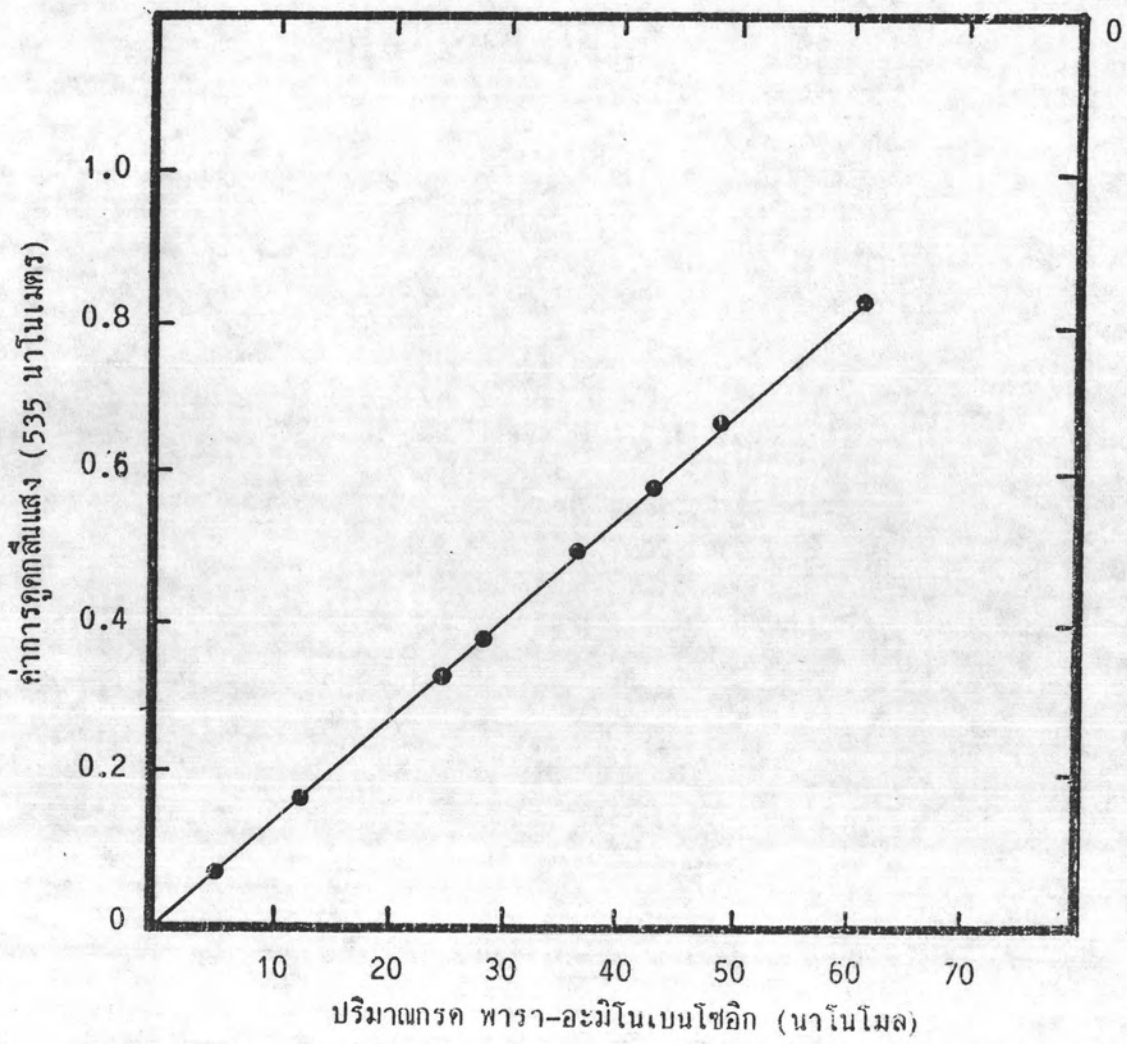
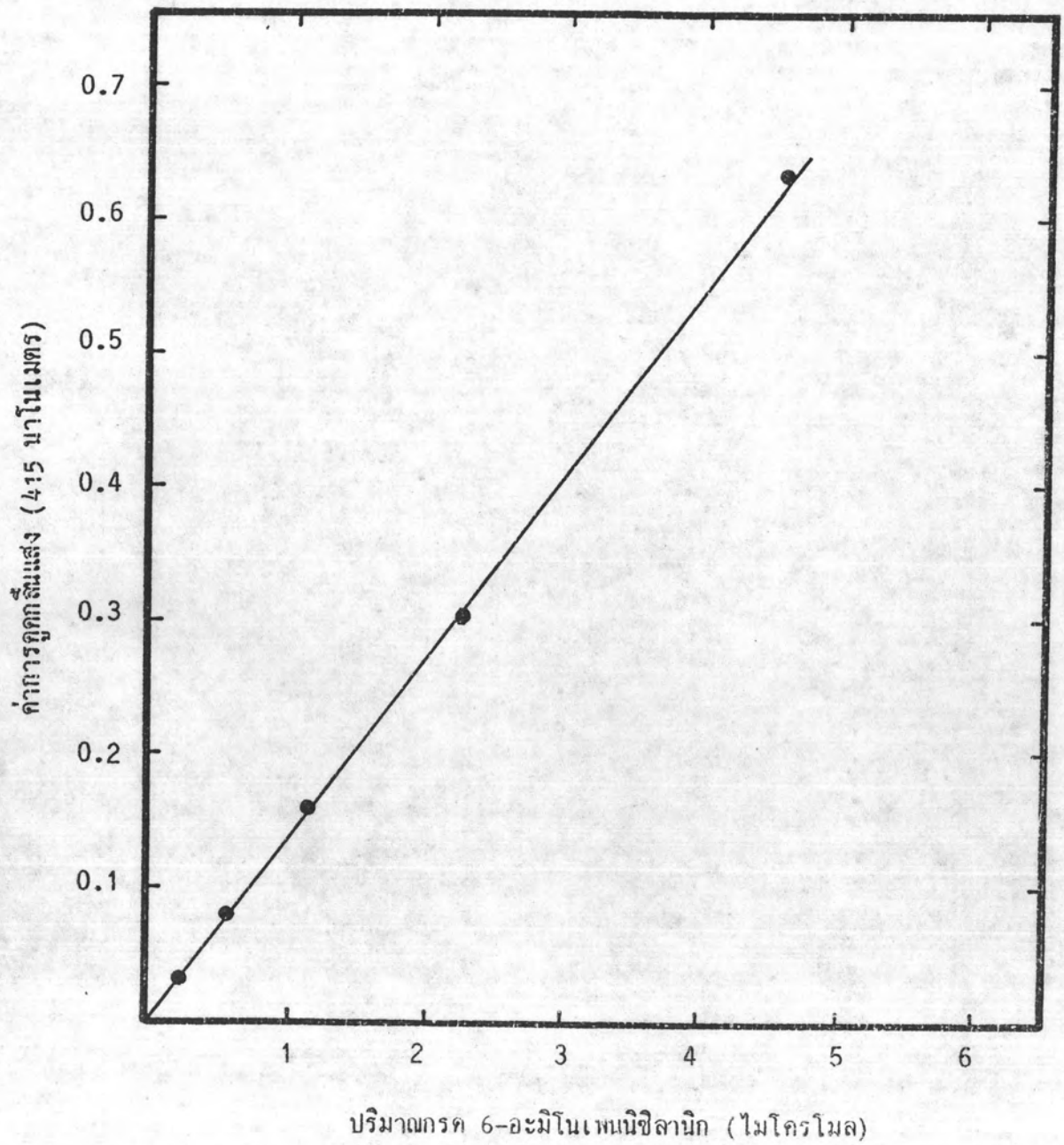
ภาคผนวกที่ 1. กราฟมาตรฐานสำหรับหาปริมาณโปรตีนโดยวิธี ลอรี (Lowry และคณะ, 1951)



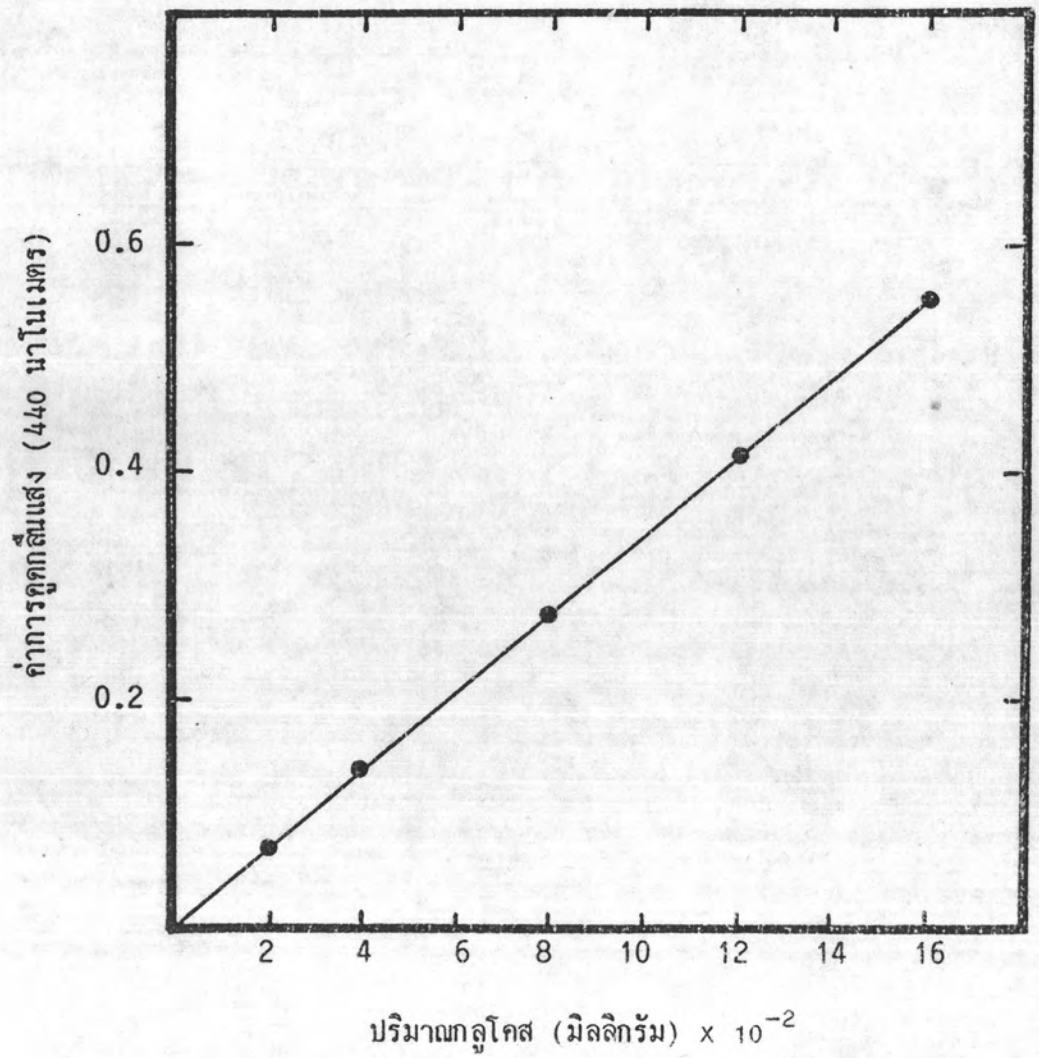
ภาคผนวกที่ 2. กราฟมาตรฐานสำหรับหาปริมาณ PABA ซึ่งได้จากการวัดแอคติวิตีของ PA โดยวิธีของ Szewezuk (Szewezuk และคณะ, 1980)



ภาคผนวกที่ 3. กราฟมาตรฐานสำหรับหาปริมาณกรด 6-อะมิโนเพนนิซิลานิก โดยวิธีของ Balasingham (Balasingham และคณะ, 1972)



ภาคผนวกที่ 4 กราฟมาตรฐานสำหรับการหาปริมาณกลูโคส โดยวิธีของ Bergmeyer



ภาคผนวกที่ 5. แอคติวิตีของเอนไซม์เบต้า-แลคแตมเมสของบิวแตนท์ SPS-6 เมื่อเจริญในอาหารสูตรปรับต่ำที่เสริมด้วยกลูโคส 0.4 เปอร์เซนต์ ที่อุณหภูมิ 28 องศาเซลเซียส นาน 24 ชั่วโมง

Substrate control (s) = การลดลงของ OD_{620} เนื่องจากสับสเตรท

Enzyme control (E) = การลดลงของ OD_{620} เนื่องจากเอนไซม์

Test (T) = การลดลงของ OD_{620} เนื่องจากสับสเตรท เอนไซม์และสารประกอบที่เกิดจากการทำงานของเอนไซม์

แอคติวิตีของ เบต้า-แลคแตมเมส = $(\frac{\Delta OD}{min})_t$

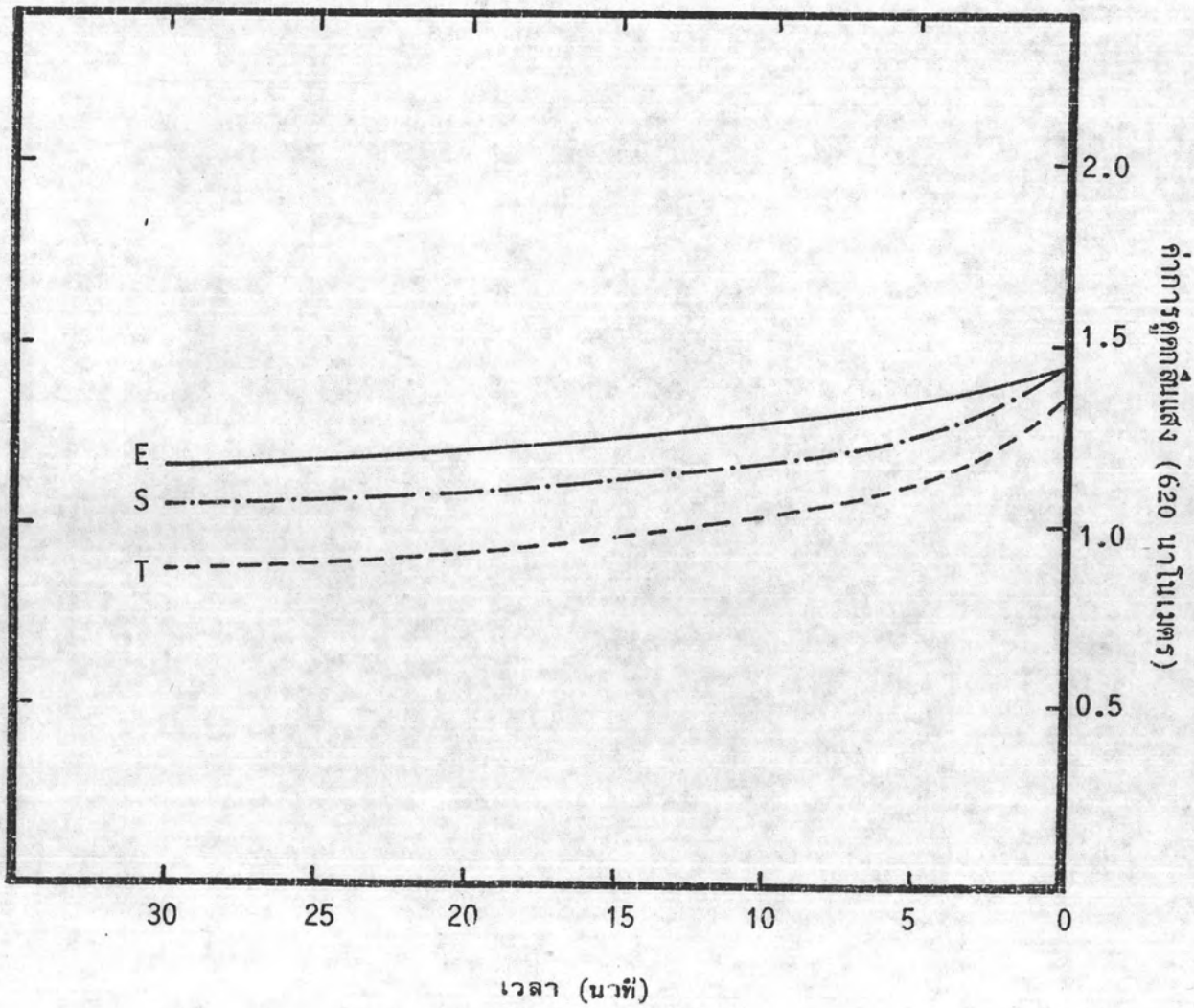
$= (\frac{\Delta OD}{min})_T - (\frac{\Delta OD}{min})_S - (\frac{\Delta OD}{min})_E$

เมื่อ ΔOD = ค่า OD ซึ่งเปลี่ยนแปลงที่ช่วงเวลา 15 ถึง 20 นาที

โดยที่ $(\frac{\Delta OD}{min})_t$ = 0.04 คือ แอคติวิตีของเอนไซม์ 0.01 หน่วย

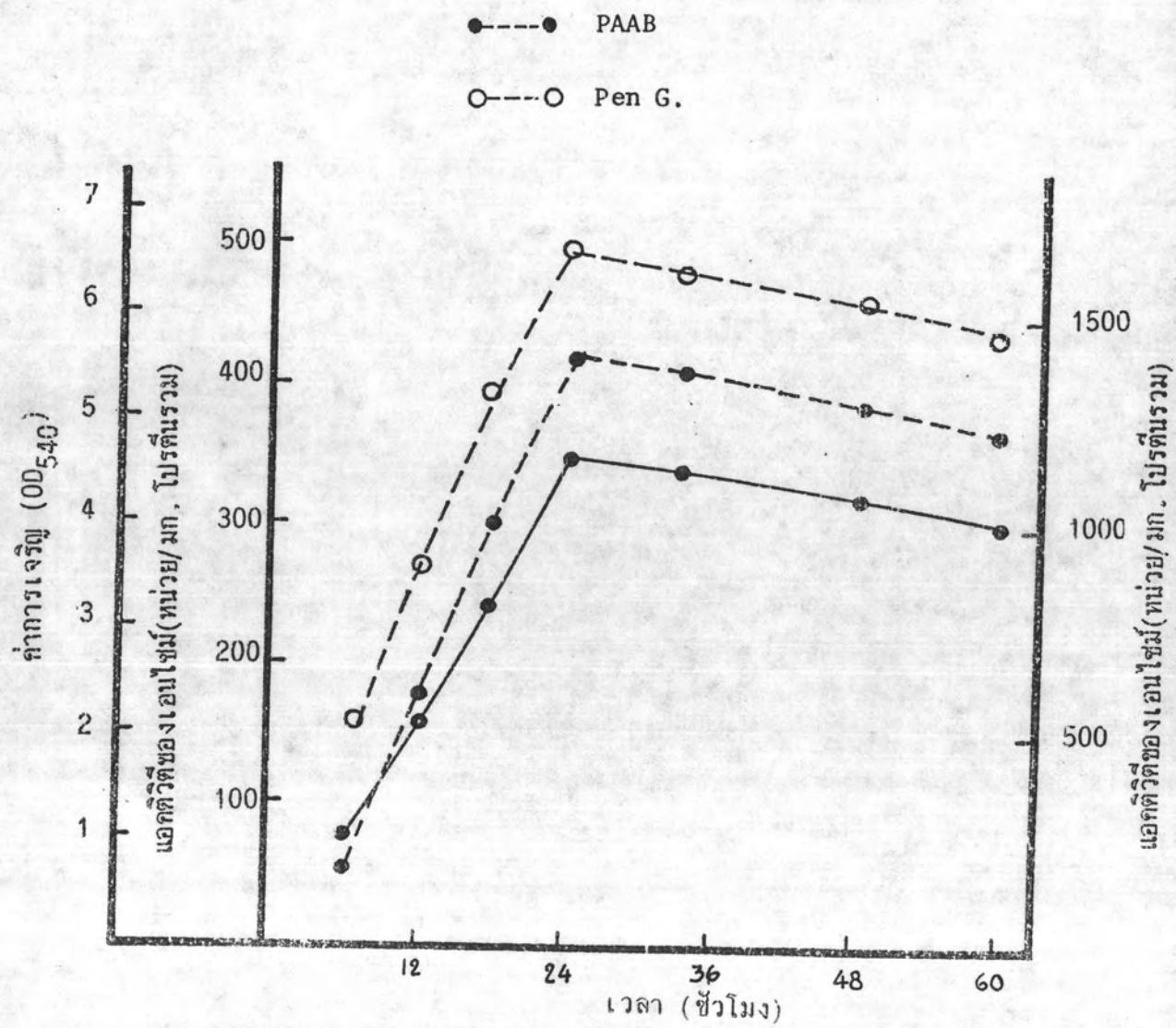
ในที่นี้ $(\frac{\Delta OD}{min})_t$ = 0 แสดงว่าไม่มีแอคติวิตีของเอนไซม์ เบต้า-แลคแตมเมส

ภาคผนวกที่ 5. แอคติวิตีของเอนไซม์เบต้า-แลคแตมเมส ของมิวแตนท์ SPS-6 เมื่อเจริญในอาหารสูตรปรับต่ำที่เสริมด้วยกลูโคส 0.4 เปอร์เซนต์ ที่ 28 องศาเซลเซียส นาน 24 ชั่วโมง

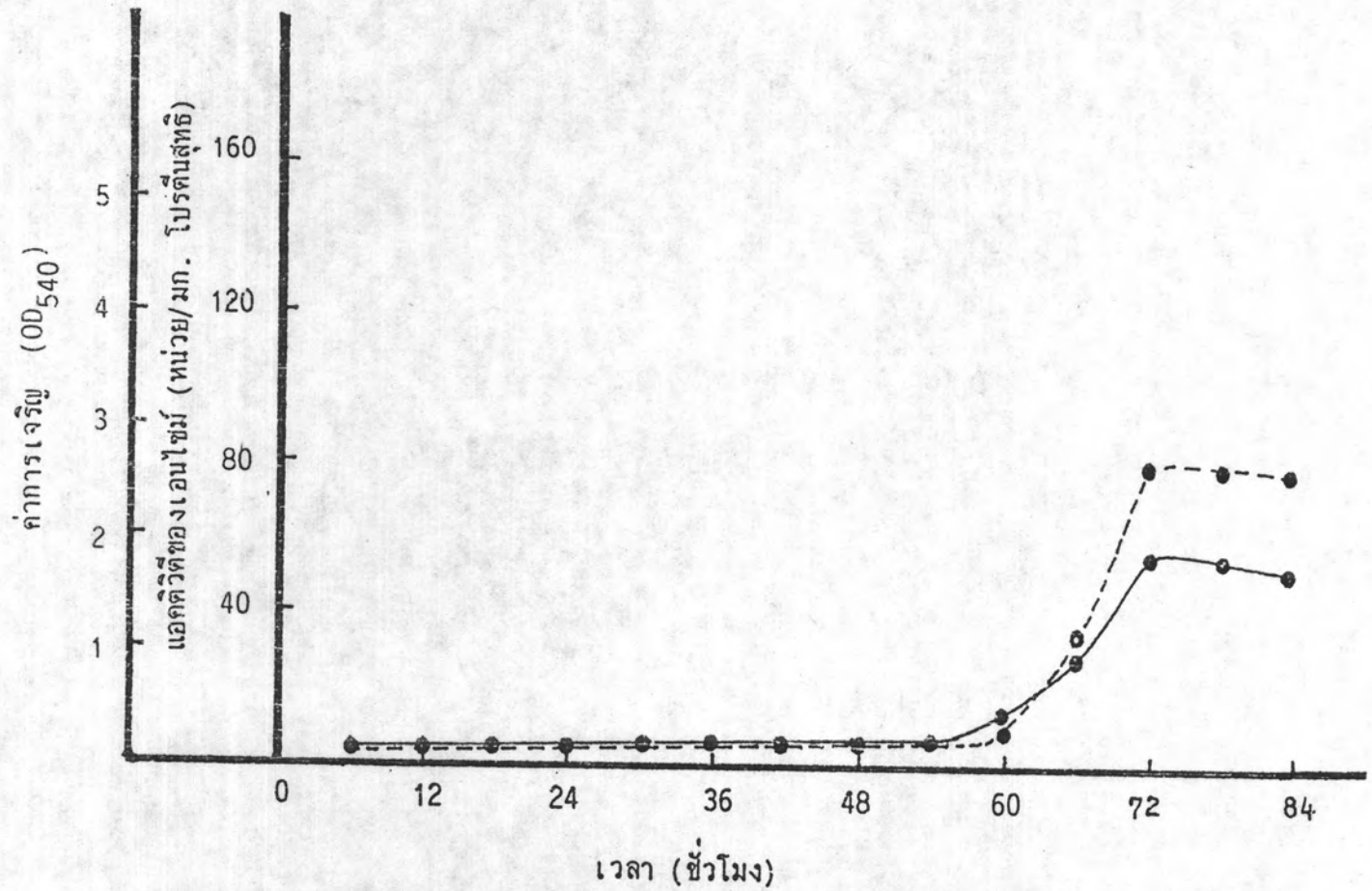


ภาคผนวกที่ ๘. เปรียบเทียบแอคติวิตีของเอนไซม์เพนนิซิลิน เอซิเลส ในมิวแตนท์ SPS-6 เมื่อวัดโดยใช้สับสเตรท เป็น PAAB (วิธีของ Szewczuk) (●-----●) กับเพนนิซิลิน จี (วิธีของ Balasingham) (O-----O) โดยเจริญมิวแตนท์ SPS-6 ในอาหารสูตรปรับต่ำที่เสริมด้วย กลูโคส 0.4 เปอร์เซนต์ อุณหภูมิ 28 องศาเซลเซียส

ภาคผนวกที่ ๖. เปรียบเทียบแอคติวิตีของเอนไซม์ เพนนิซิลิน เอซิเลส ในมิวแตนท์ SPS-6 เมื่อวัดโดยใช้สับ สเตรท PAAB (●) กับสับสเตรท เพนนิซิลิน จี (O)



ภาคผนวกที่ 7. รูปแบบการเจริญ (●——●) และการผลิตเอนไซม์เพนนิซิลิน เอซิเลส (●- - - -●) ของ *P. rettgeri* ATCC 9250 WT เมื่อเลี้ยงในอาหารสูตรปรับต่ำที่เสริมด้วยกลูโคส 0.2% ที่อุณหภูมิ 28°ซ


ค่าการเจริญ (OD_{540})
แอคติวิตีของเอนไซม์ (หน่วย/มก. โปรตีนสุทธิ)
1
2
3
4
5
40
80
120
160
0
12
24
36
48
60
72
84
เวลา (ชั่วโมง)

ประวัติผู้เขียน

นายสมศักดิ์ สรั่งปิน เกิดวันที่ 17 มกราคม พ.ศ. 2501 ณ กรุงเทพ ฯ สำเร็จการศึกษา วิทยาศาสตร์ บัณฑิต สาขาเคมี จากคณะวิทยาศาสตร์ มหาวิทยาลัยขอนแก่น เมื่อปี พ.ศ. 2524