CHAPTER III

RESULTS

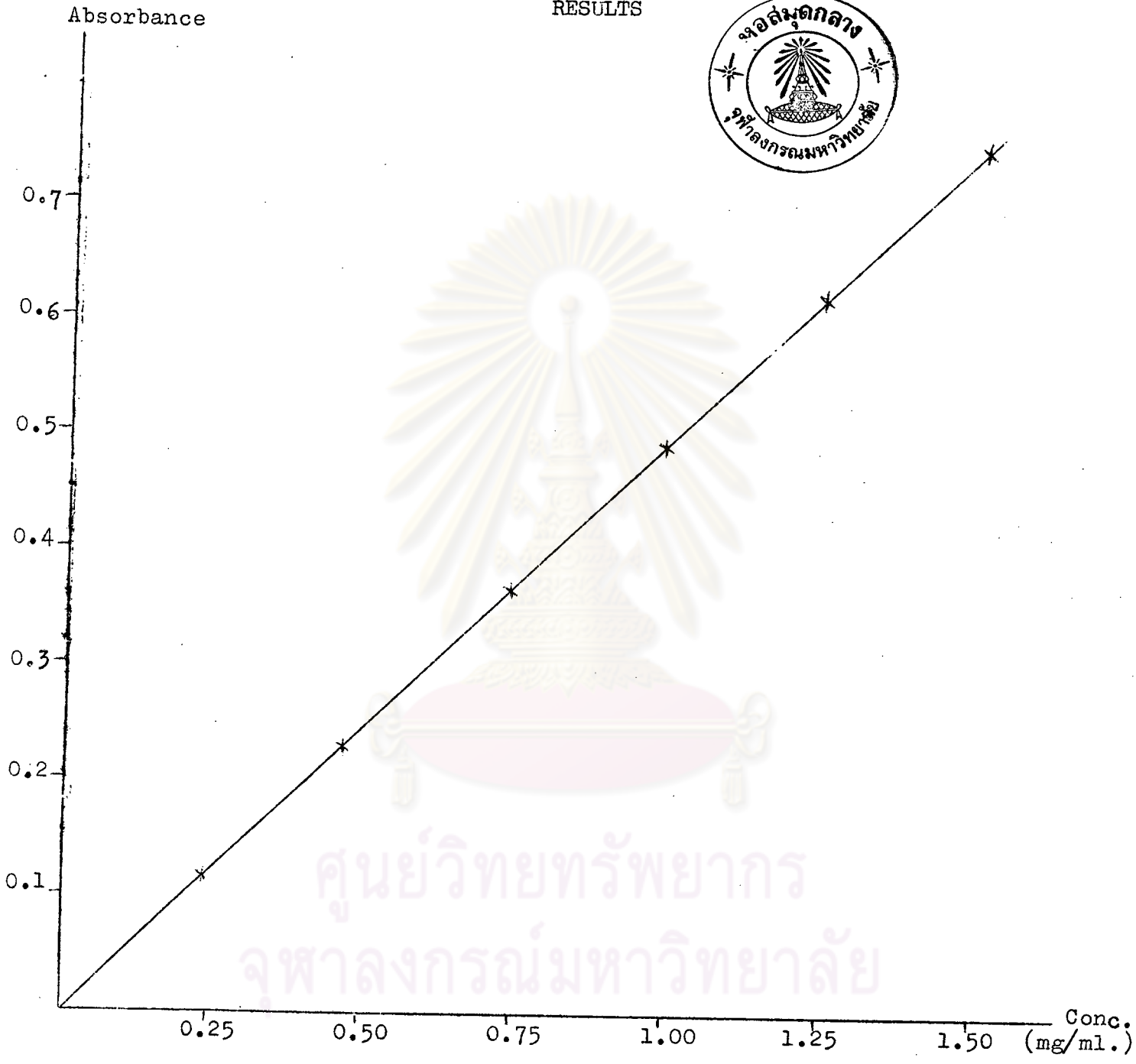

Figure 1 Standard absorbance VS concentration curve of Phenobarbital at wave length 240 nm.

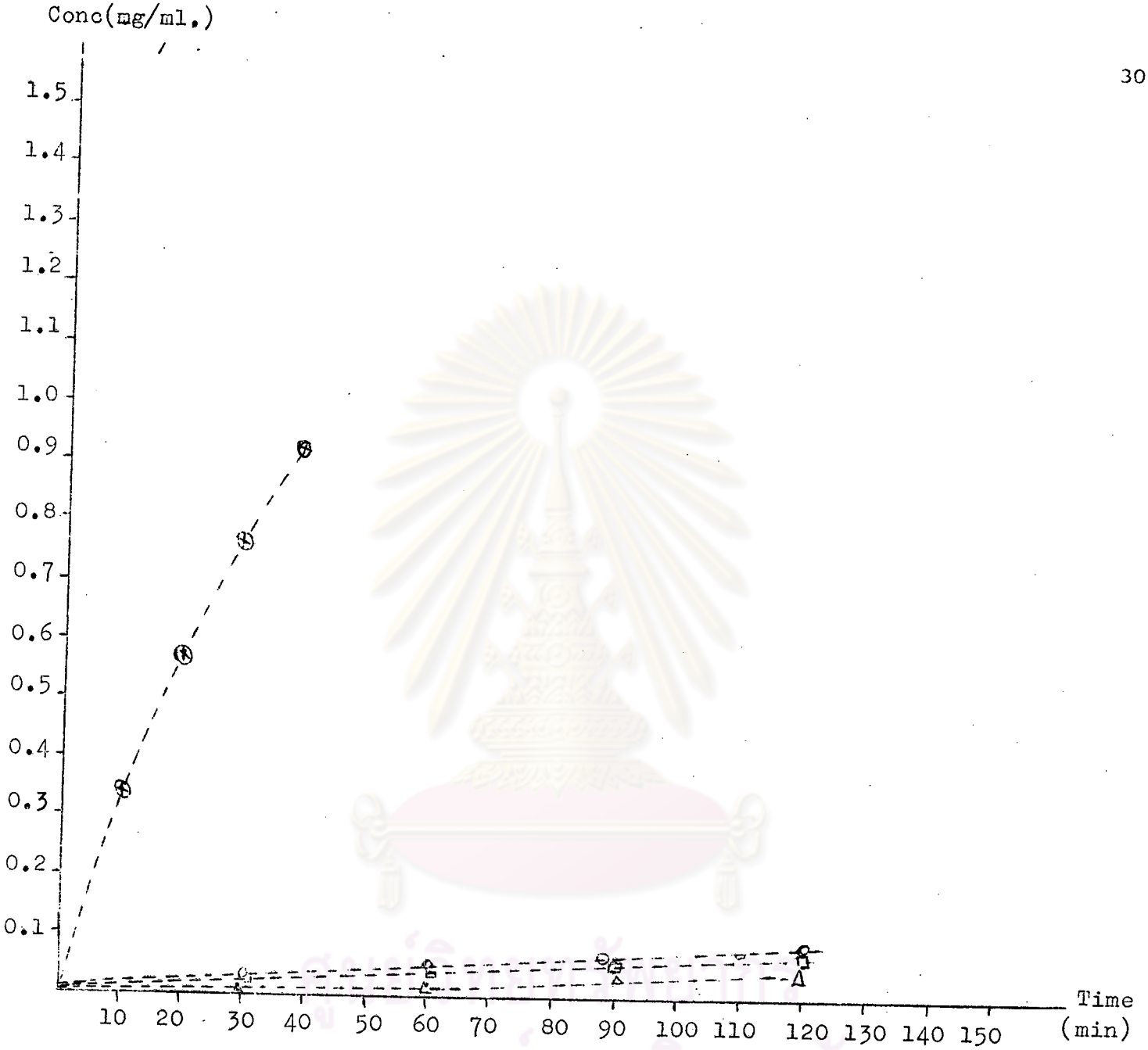

Figure 2 Concentration VS time curve of Phenobarbital released from various suppository bases.

Key: ⊗ 60% PEG 4000 + 40% PEG 1500, ○ Witepsol S 55, □ Cocoa butter + 10% white beeswax, △ Witepsol E 85.

Figure 2: The result showed that the PEG combination (60% PEG 4000 + 40% PEG 1500) was very actively in releasing the drug more than the other bases. The amounts of drug released from Witepsol S 55, Cocoa butter plus 10% white beeswax and Witepsol E 85 were very slow, becau se these bases are water insoluble. Therefore PEG base was the most appropriate base for phenobarbital suppository.

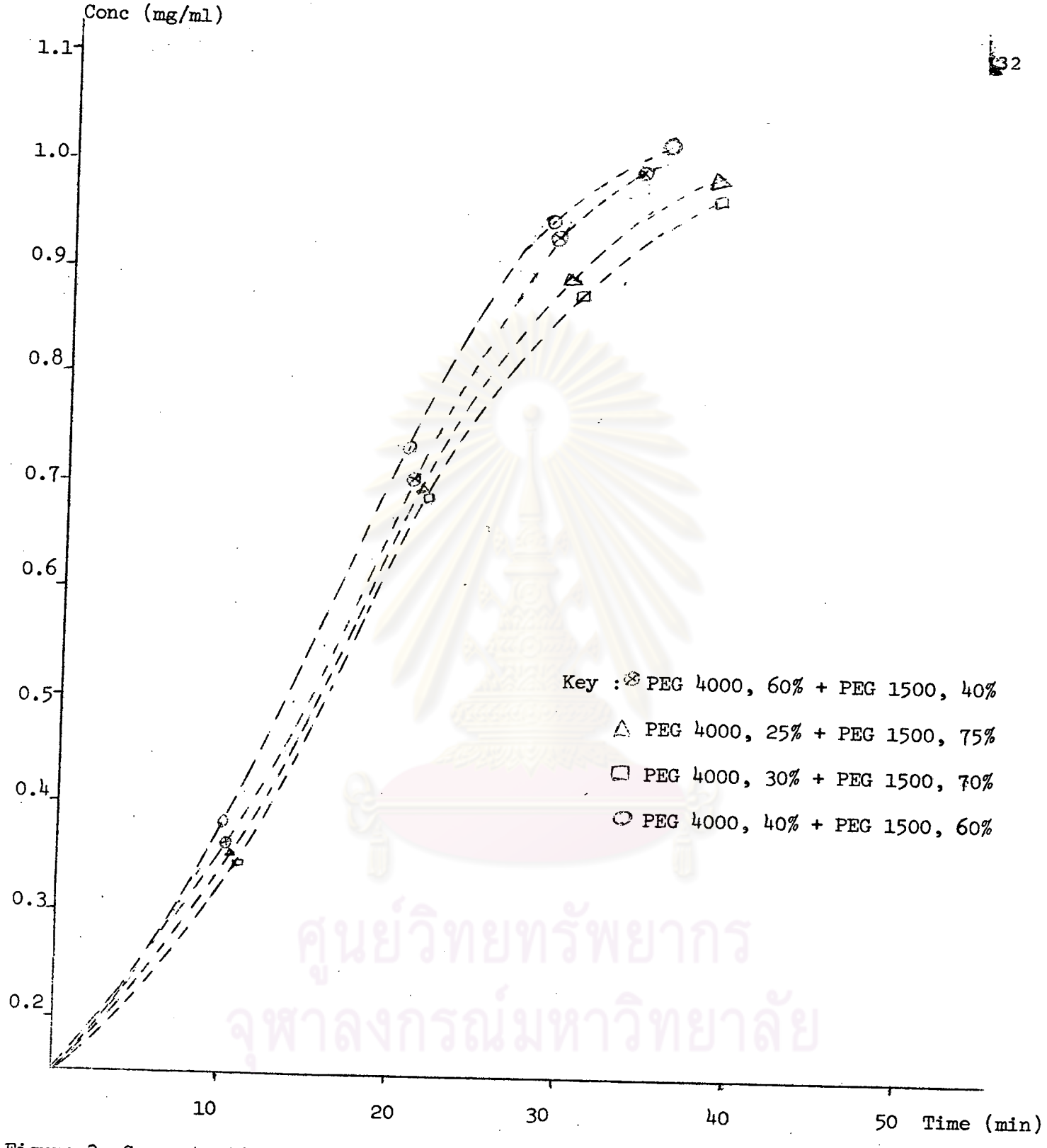

Figure 3 Concentration VS time curves of Phenobarbital in different combinations of PEG base.

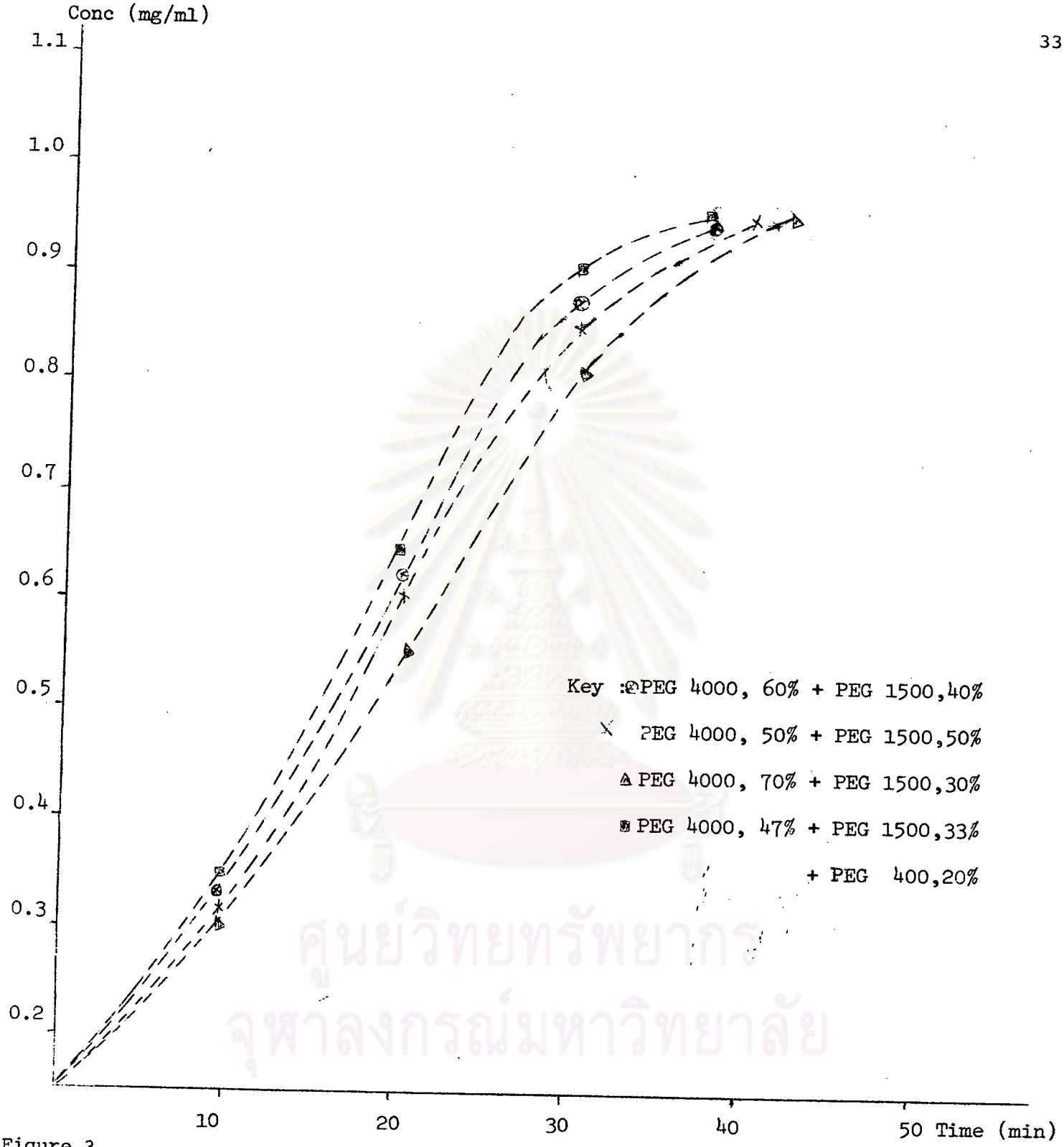

Figure 3
(Continue) Concentration VS time curves of Phenobarbital in different combinations of PEG base.

Figure 3: The result showed that all these curves were not significantly different in releasing rate. Considering about the property of these suppositories, either the various combinations of PEG 4000 and PEG 1500 or the combination of PEG 4000, PEG 1500 and PEG 400 could be used, because they gave similar and suitable dosage form. The two components of PEG was more practical than the three components, therefore PEG 4000 and PEG 1500 was the best combination for phenobarbital suppository.

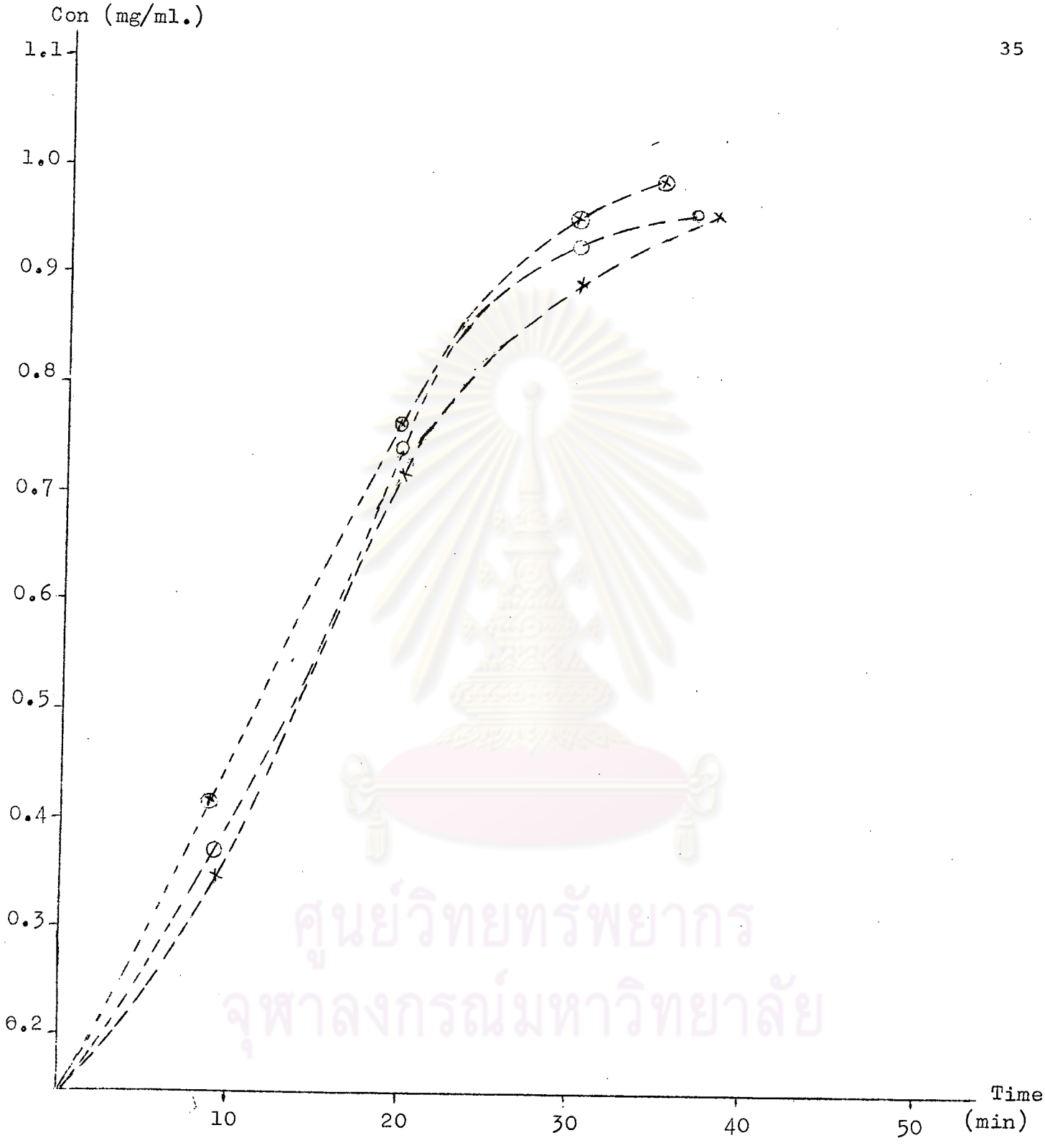

Figure 4 Concentration VS time curves of Phenobarbital in different combinations of PEG base and Tween 20.

Key : ⊗ PEG 4000,60% + PEG 1500, 40%. ○ PEG 4000, 58% + PEG 1500, 40%+ Tween 20, 2%. × PEG 4000, 55% + PEG 1500,40% + Tween 20, 5%.

Figure 4: The result showed that these curves were very slightly different, and the influence of Tween 20 on releasing rate was unnoticeable. Therefore Tween 20 did not have any effect on the releasing rate of phenobarbatal; eventhough it is a surfactant.

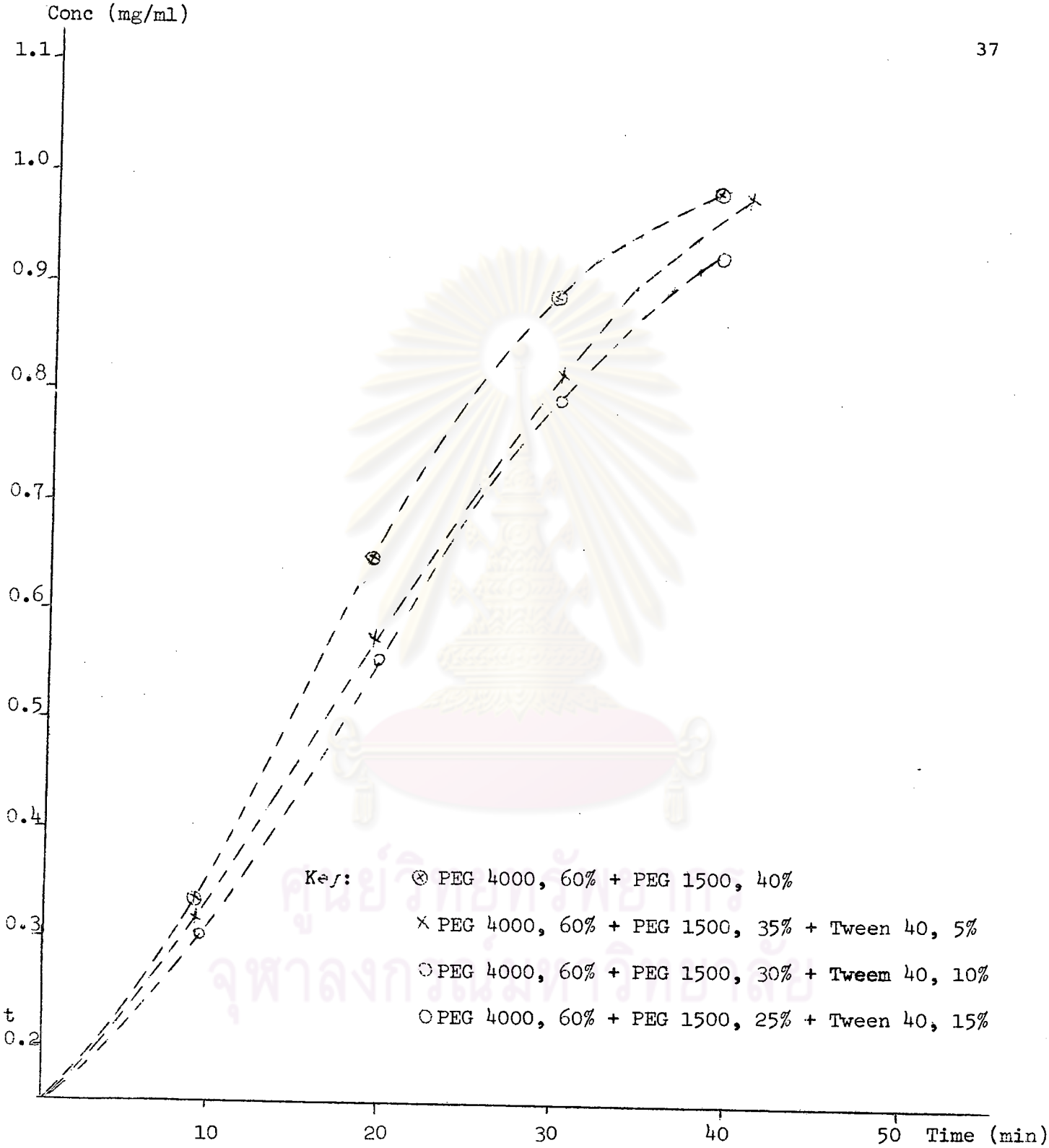

Figure 5 (Continue) Concentration VS time curves of Phenobarbital in different combinations of PEG base and Tween 40.

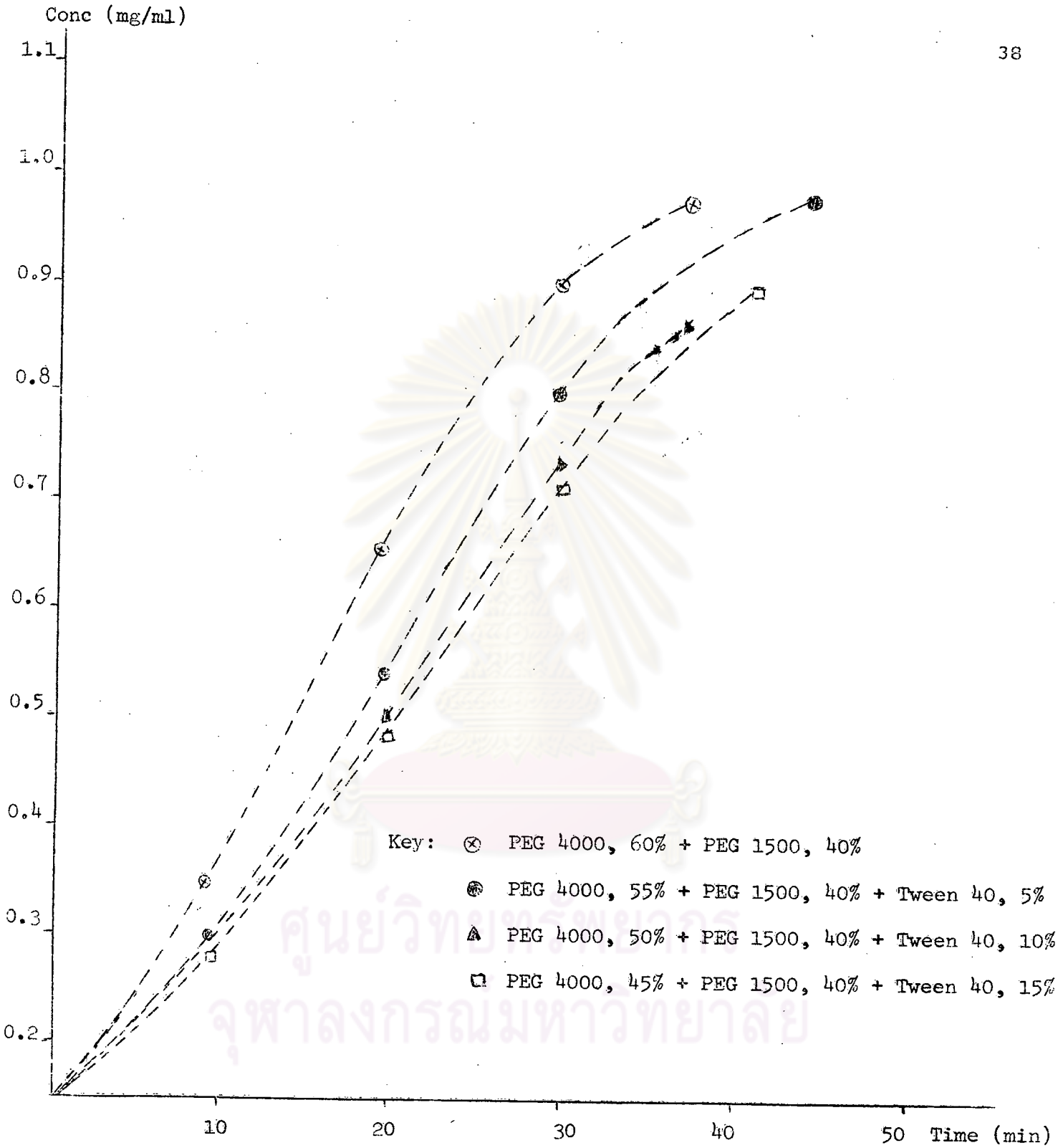

Figure 5 Concentration VS time curves of Phenobarbital in different combinations of PEG base and Tween 40.

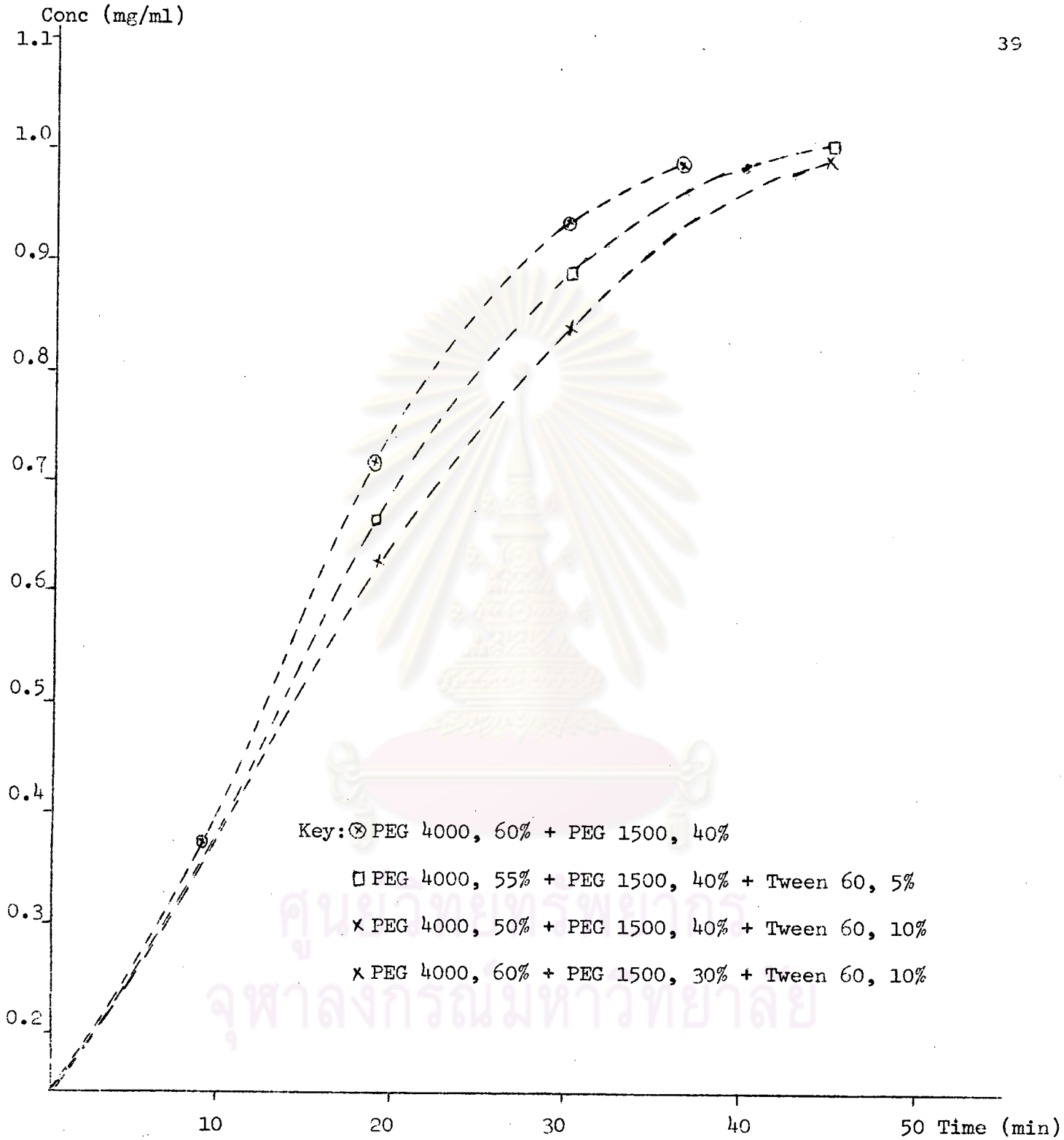

Figure 6 Concentration VS time curves of Phenobarbital in different combinations of PEG. base and Tween 60.

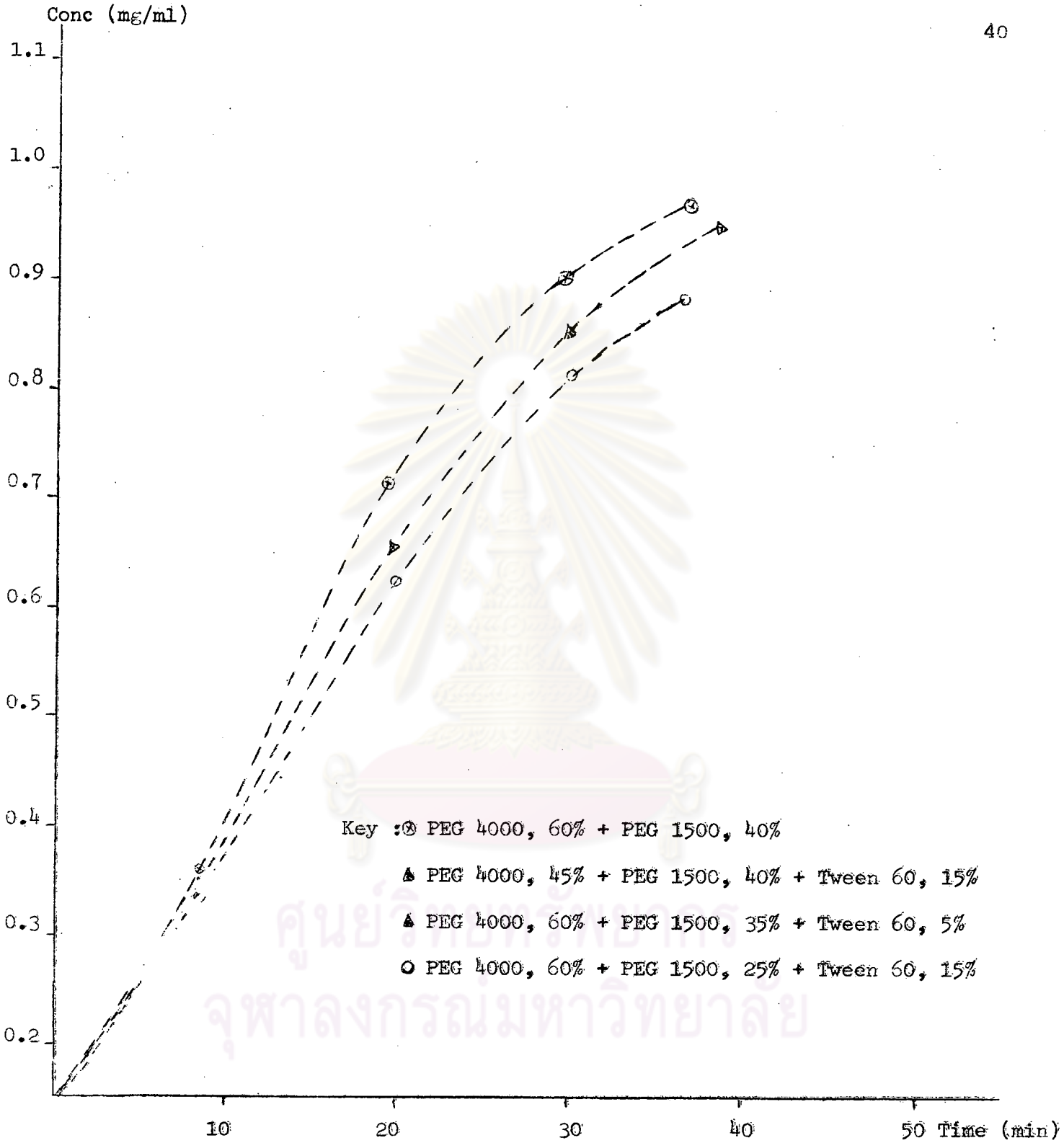

Figure 6(Continue) Concentration VS time curves of Phenobarbital in different combinations of PEG. base and Tween 60.

Figure 5: The result showed that various percentages of Tween 40 did not have any effect on releasing rate of phenobarbital. Even-though replaced Tween 40 by Tween 60 with the varied combination of PEG the result was also the same. Concluding that Tween 40 and Tween 60 had no significant effect on the releasing rate.

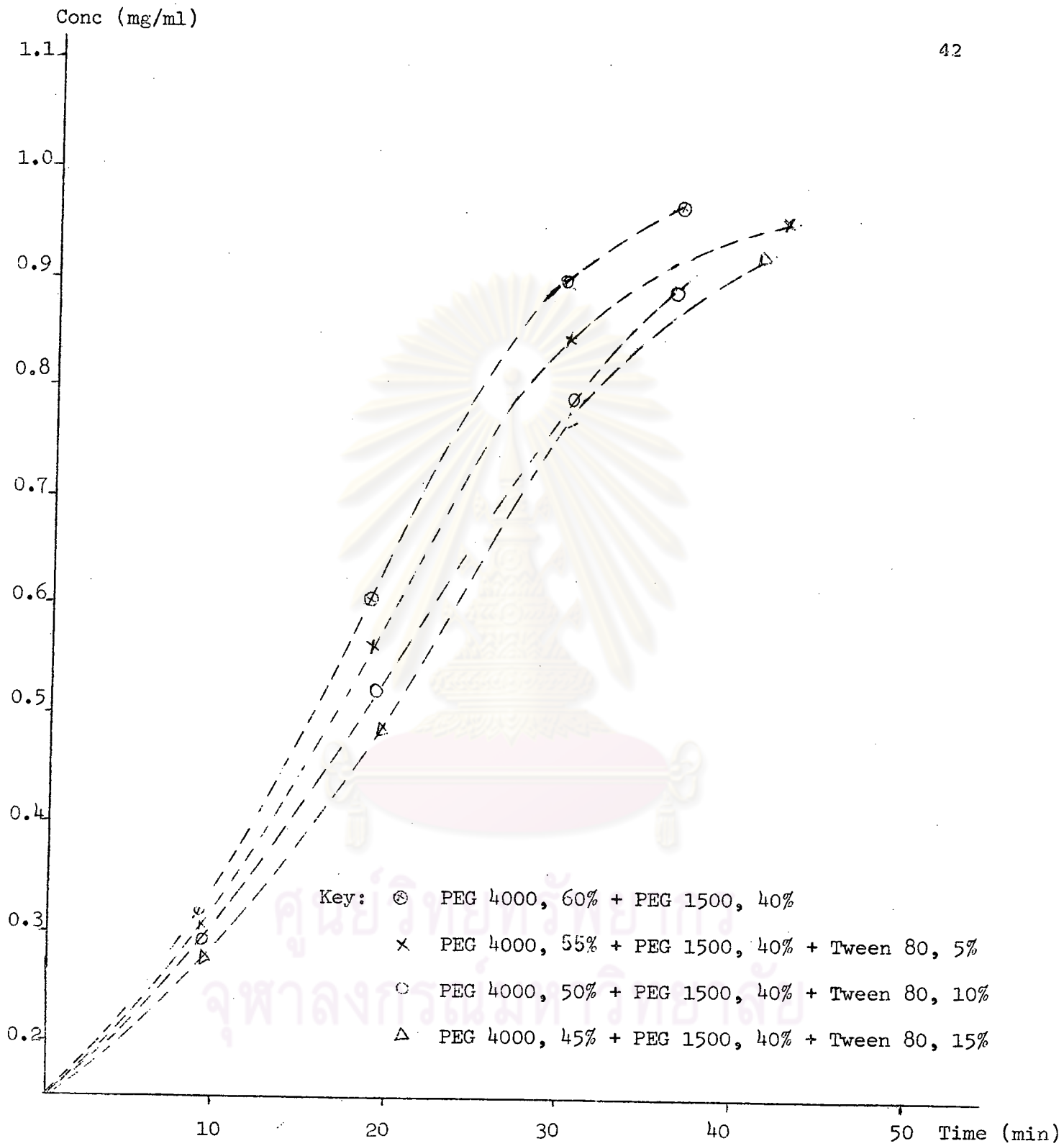

Figure 7 Concentration VS time Curves of Phenobarbital in different combinations of PEG base and Tween 80.

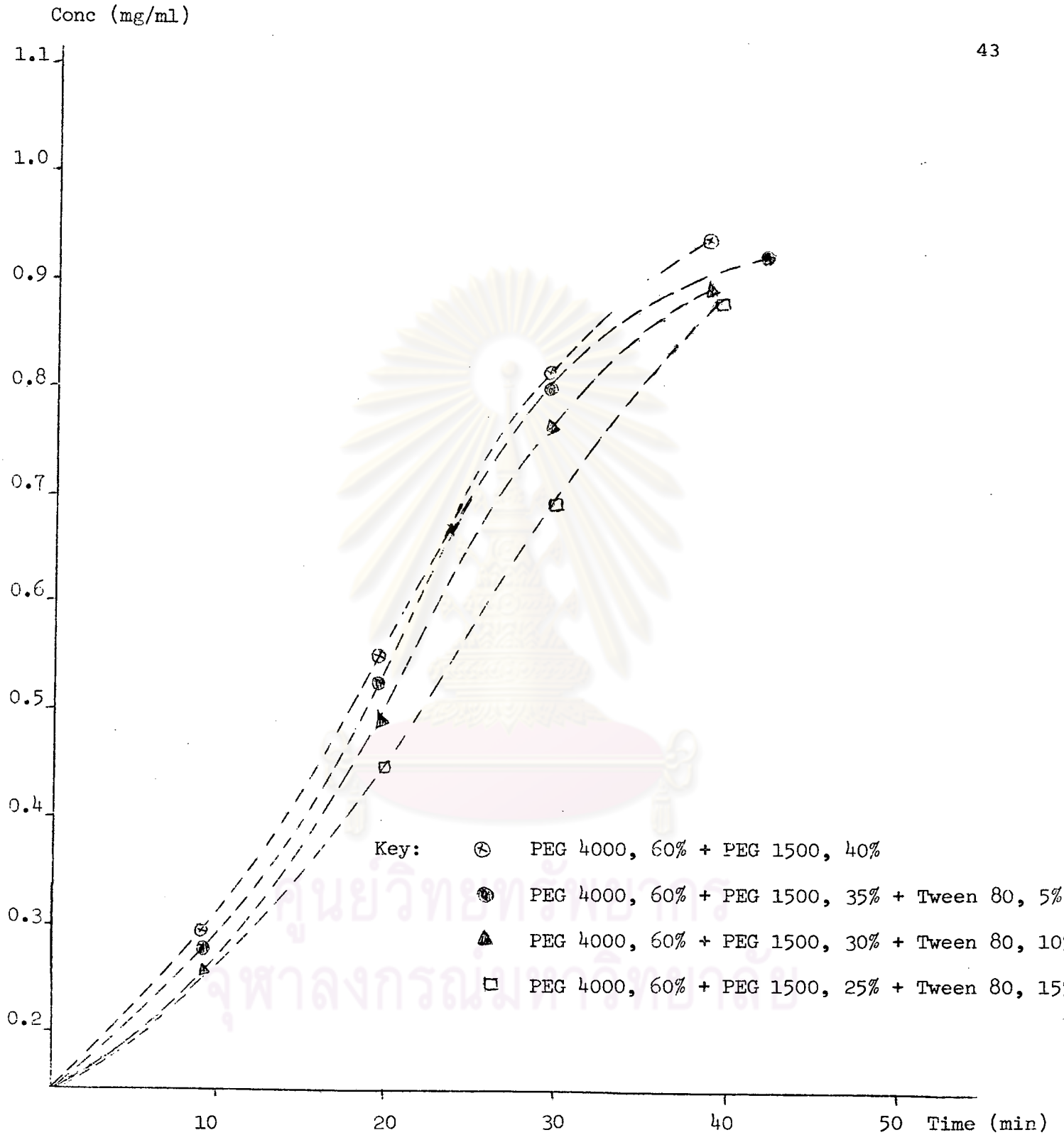

Figure 7 (Continue) Contentration VS time Curves of Phenobarbital in different combinations of PEG base and Tween 80.

Figure 7: When percentage of PEG 4000 was constant and varied PEG 1500 and Tween 80. It was found that the results were not significantly different in releasing rate.

But keeping PEG 1500 at 40% and varied percentages of PEG 4000 and Tween 80, the results showed that 10% Tween 80 would increase the releasing rate. Therefore Tween 80 with appropriated concentration could be used to accelerate the rate of phenobarbital releasing.

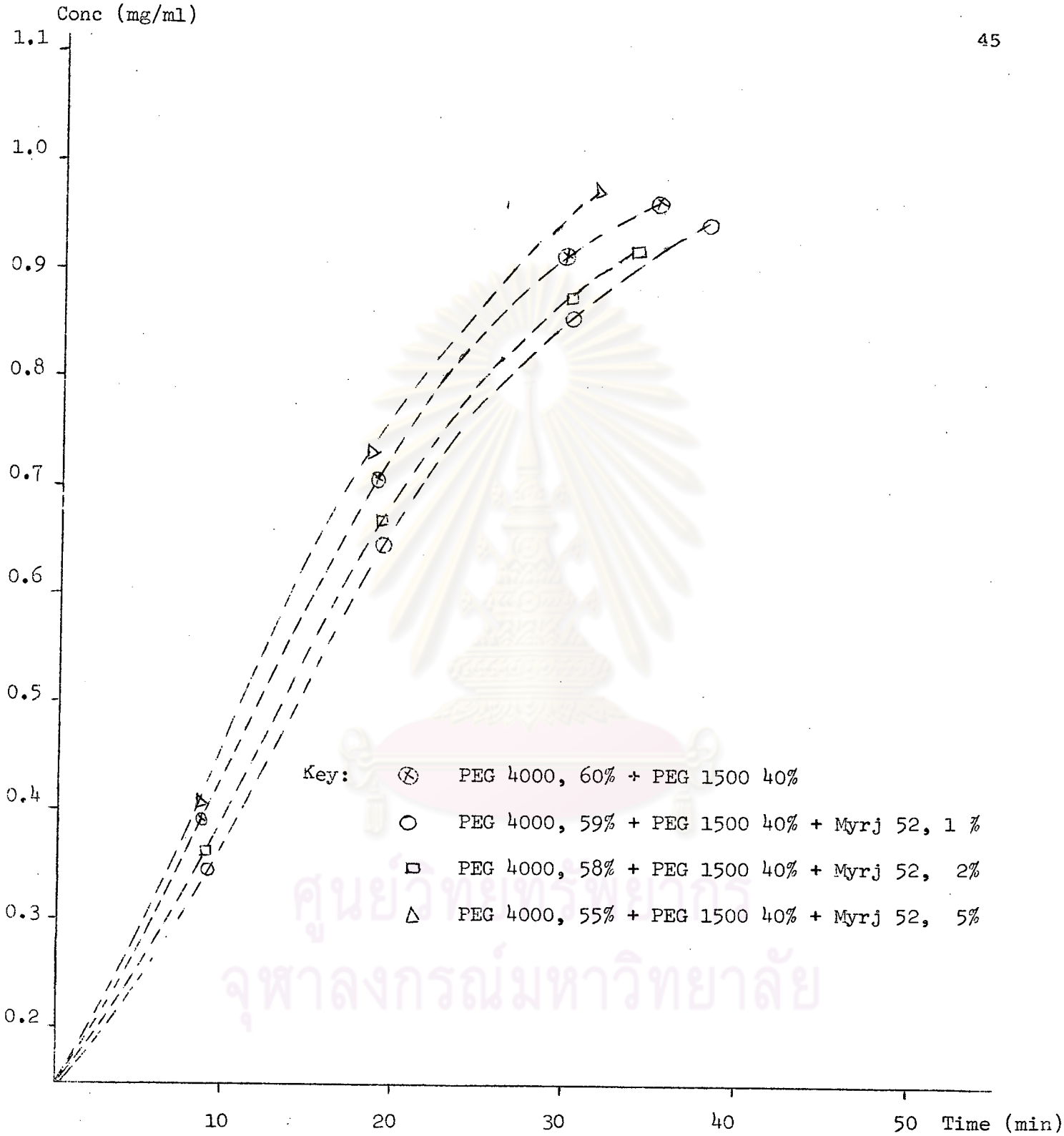

Figure 8 Concentration VS time curves of Phenobarbital in different combinations of PEG base and Myrj 52.

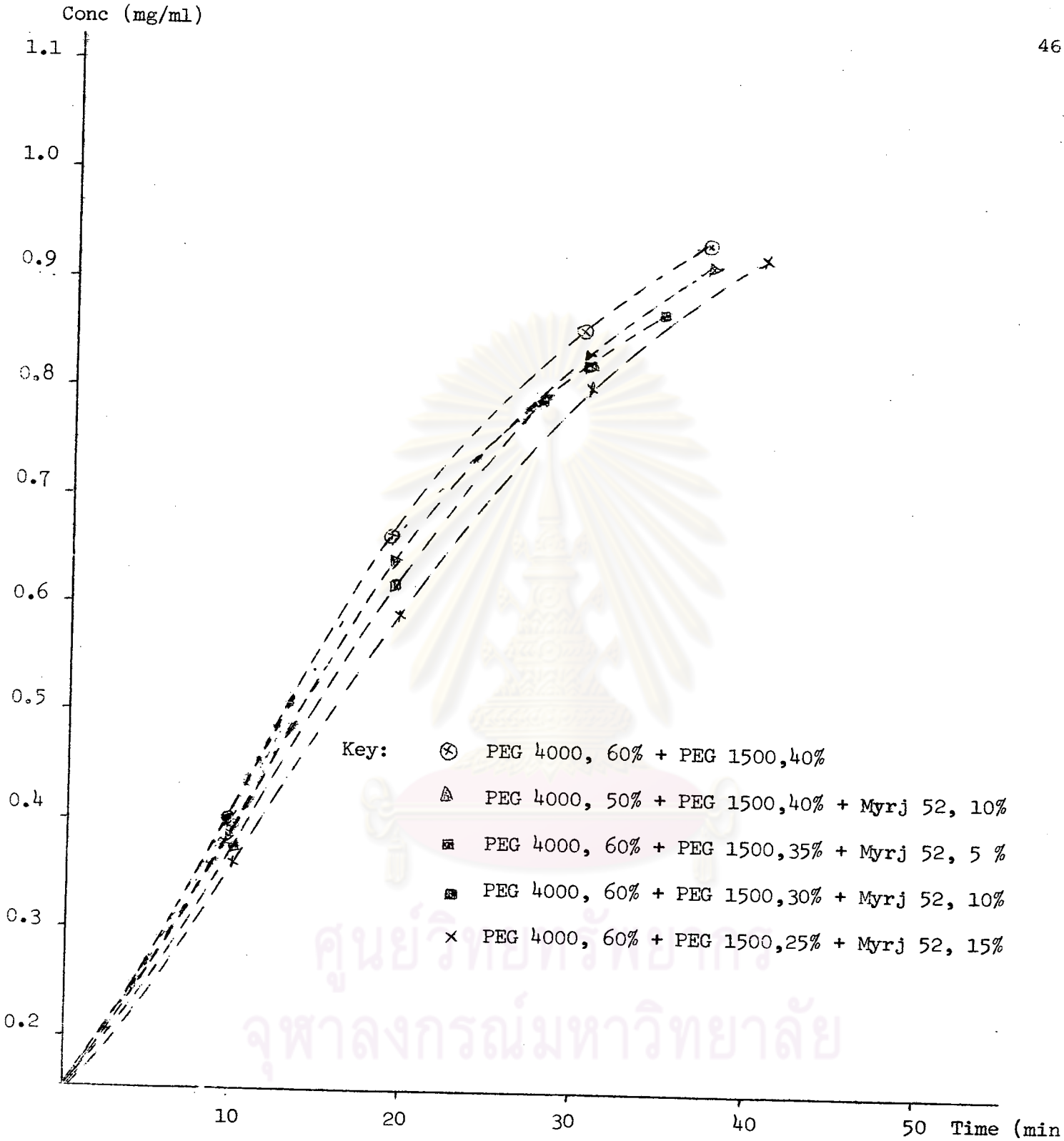

Figure 8 (Continue) Concentration VS time curves of Phenobarbital in different combinations of PEG base and Jyrj 52.

Figure 8: Myrj 52 also gave the same result as Tween 80 but concentration which increased the releasing rate was 5%, while10% Myrj 52 decreased the rate.