

Supporting Information

개환 공중합 반응을 통한 폴리에스터 합성: 촉매와 조촉매 영향 비교

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Polyester Synthesis *via* Ring-Opening Copolymerization: Comparison of the Effects of Catalysts and Cocatalysts

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Keywords: polyester, ring-opening copolymerization, catalyst, co-catalyst

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■ ^1H NMR spectra of polyesters

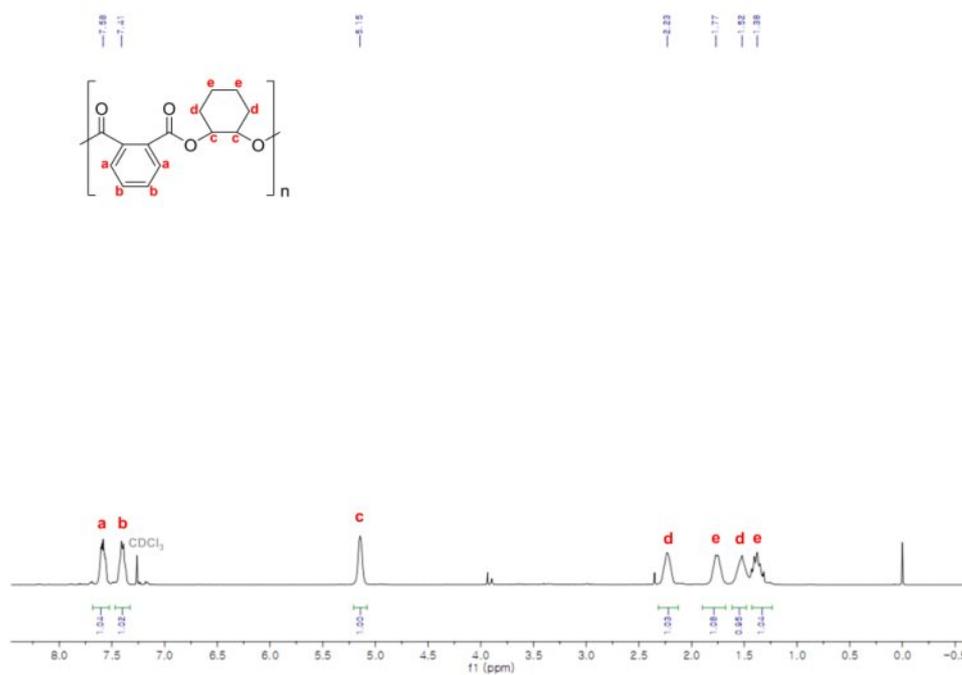


Figure S1. ^1H NMR spectrum of poly(PA-*alt*-CHO) (entry 2, Table 1).

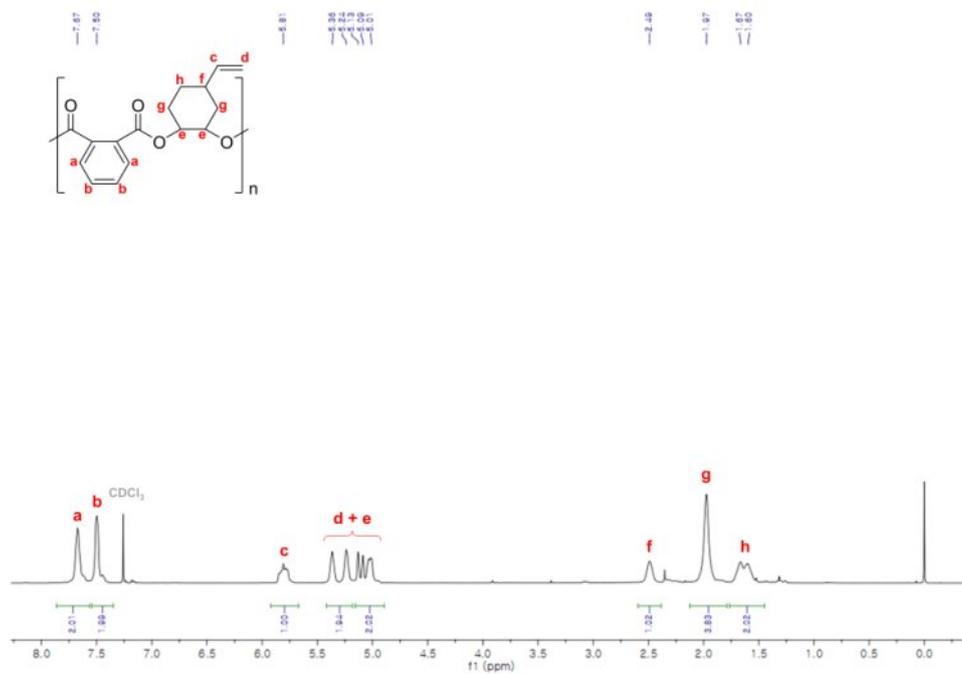


Figure S2. ^1H NMR spectrum of poly(PA-*alt*-VCHO) (entry 7, Table 1).

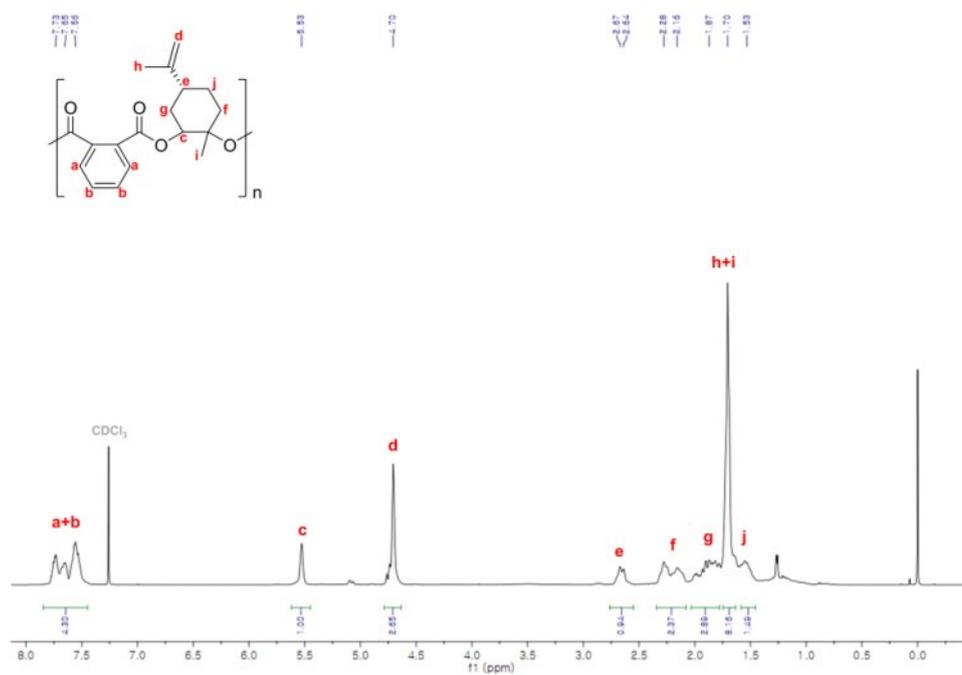


Figure S3. ¹H NMR spectrum of poly(PA-*alt*-LO) (entry 8, Table 1).

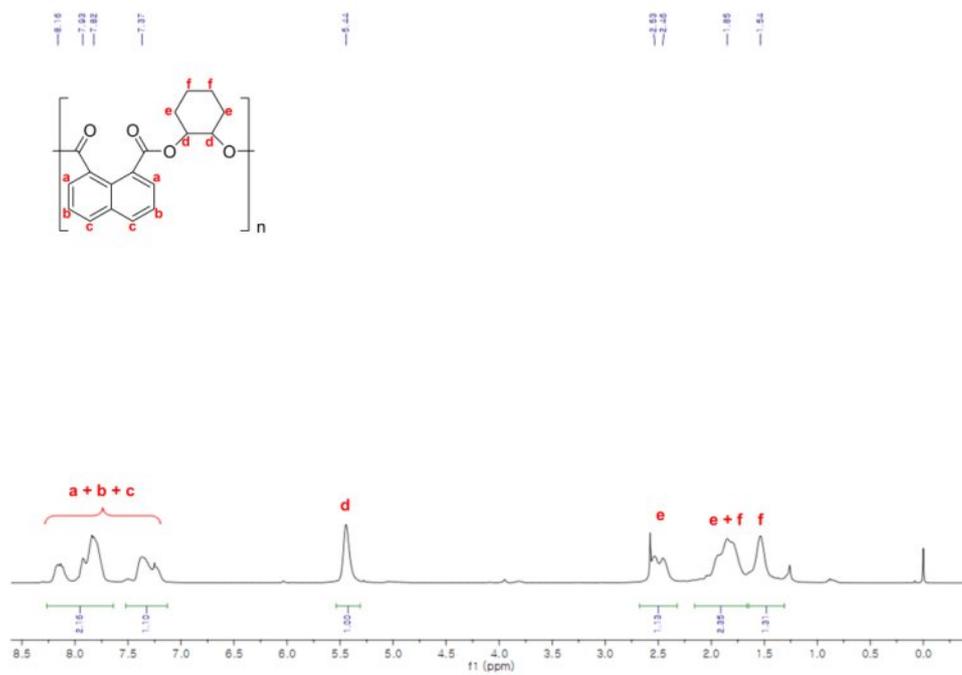


Figure S4. ¹H NMR spectrum of poly(NA-*alt*-CHO) (entry 9, Table 1).

■ GPC traces of polyesters

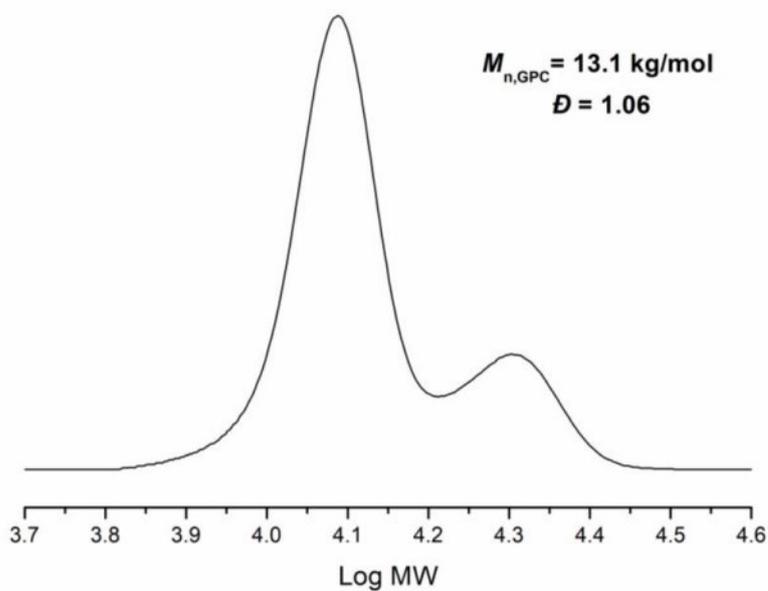


Figure S5. GPC trace of poly(PA-*alt*-CHO) (entry 2, Table 1).

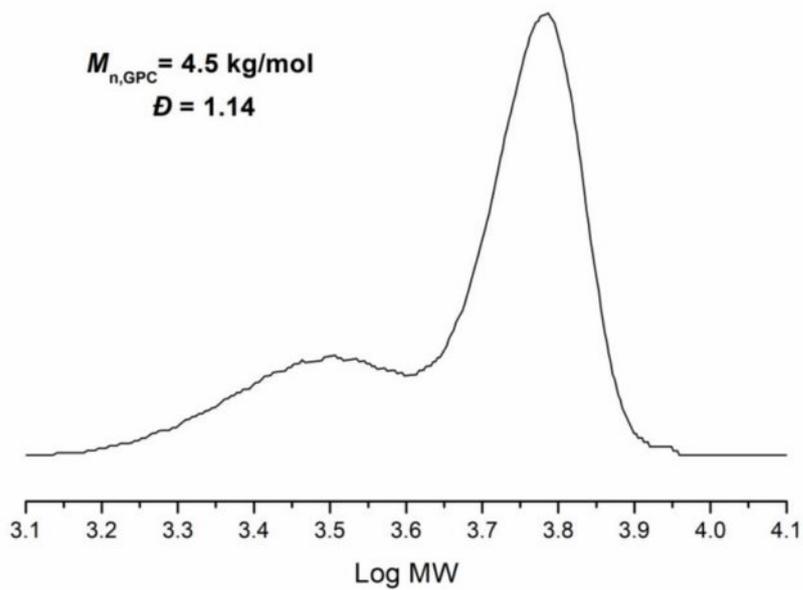


Figure S6. GPC trace of poly(PA-*alt*-VCHO) (entry 7, Table 1).

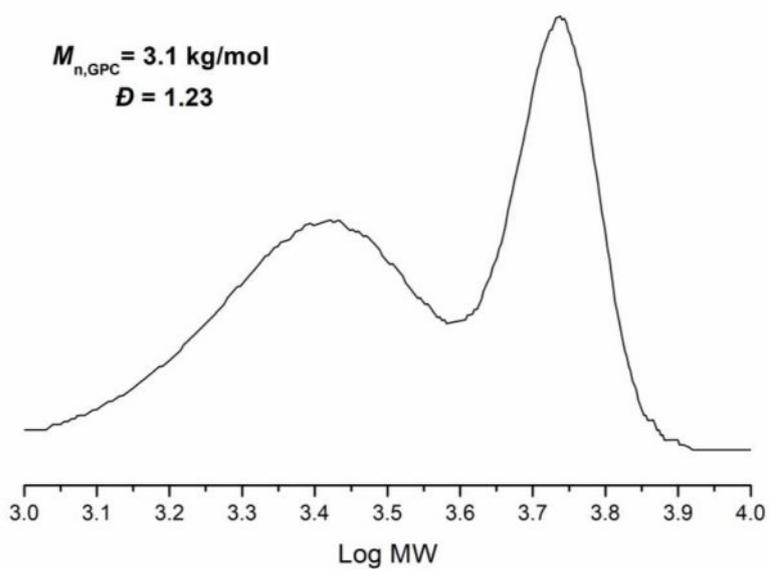


Figure S7. GPC trace of poly(PA-*alt*-LO) (entry 8, Table 1).

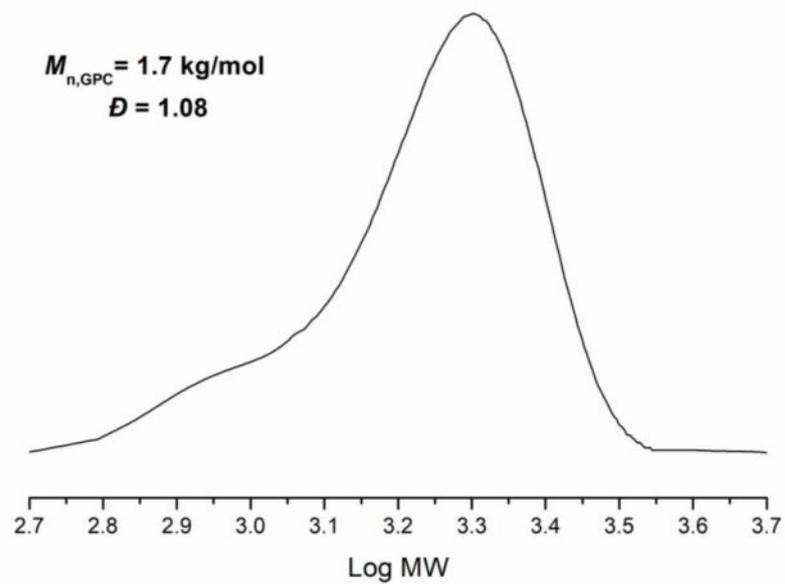


Figure S8. GPC trace of poly(NA-*alt*-CHO) (entry 9, Table 1).

■ Possible ROCOP mechanisms

본 연구에서 사용한 촉매 및 조촉매 조합은 다양하여, 조건에 따라 서로 다른 개시 경로가 작용할 가능성이 있다. 대략 다음 세 가지 주요 경로를 고려할 수 있다: i) (salcy)AlCl와 같은 유기금속촉매에 의해 개시되는 경로,¹ ii) PPNCl, TBABr 등 할로젠기를 포함한 organic base에 의해 개시되는 경로,^{2,3} iii) DMAP, DBU 등 organic base가 직접 개시하는 경로.⁴

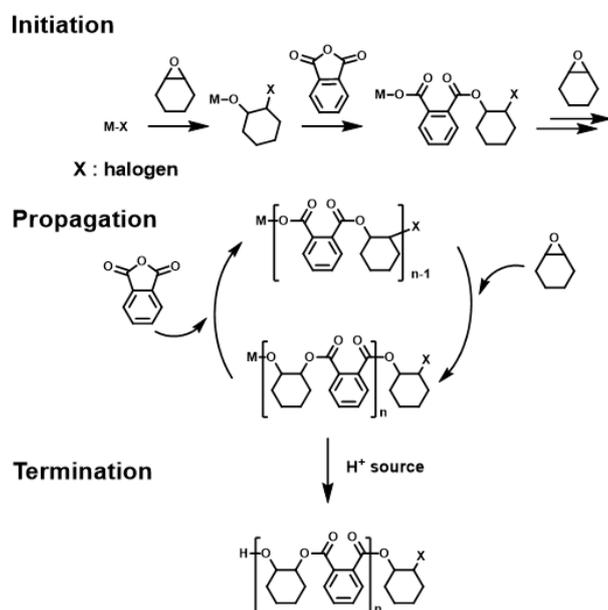
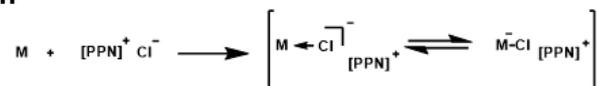
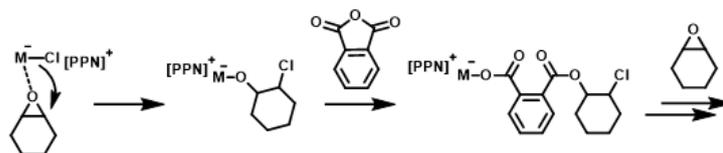


Figure S9. Initiation with organometallic catalysts (e.g., (salcy)AlCl)

Initiation



M: Metal-based Lewis acid



Propagation



Termination

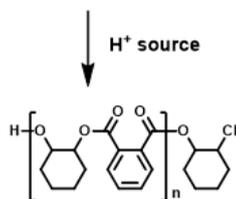
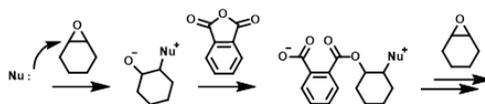


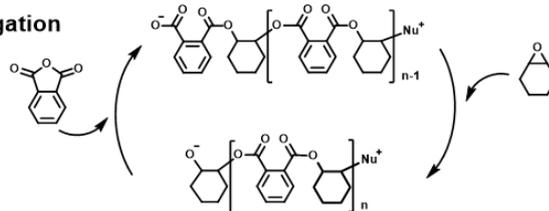
Figure S10. Initiation with halide-containing organic bases (e.g., PPNCl, TBABr)

Initiation



Nu : organic base

Propagation



Termination

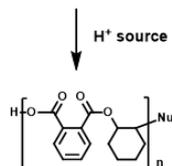


Figure S11. Direct initiation with organic bases (e.g., DMAP, DBU)

■ References

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