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KH MA MD TN• **TAKAHASHI, Akihiro****Nagoya-shi, Aichi 455-8502 (JP)**• **KATO, Masashi****Tokai-shi, Aichi 476-8567 (JP)**• **NISHIMURA, Mihoko****Nagoya-shi, Aichi 455-8502 (JP)**• **KATO, Koya****Nagoya-shi, Aichi 455-8502 (JP)**(30) Priority: **29.10.2021 JP 2021178292**(74) Representative: **Mewburn Ellis LLP****Aurora Building****Counterslip****Bristol BS1 6BX (GB)**(71) Applicant: **Toray Industries, Inc.****Tokyo 103-8666 (JP)**

(72) Inventors:

• **YAMASHITA, Kohei****Nagoya-shi, Aichi 455-8502 (JP)**(54) **METHOD FOR RECOVERING EPSILON-CAPROLACTAM AND POLYAMIDE 6 OLIGOMER, AND METHOD FOR PRODUCING POLYAMIDE 6**

(57) To provide a collection method capable of collecting ϵ -caprolactam and a polyamide 6 oligomer in high yield only by depolymerization using a small amount of water and solid-liquid separation with a small energy consumption. The present invention is a method for collecting ϵ -caprolactam and a polyamide 6 oligomer, including adding a resin composition (A) containing at least polyamide 6 and at least one of water (B) heated to 290°C or higher and 350°C or lower and a polyamide 6

oligomer aqueous solution (B1) heated to 290°C or higher and 350°C or lower to make contact with each other to obtain a reaction mixture (C) containing at least ϵ -caprolactam, a polyamide 6 oligomer, and water, and subjecting the reaction mixture (C) to a solid-liquid separation (I) in a temperature range not higher than a boiling point of water at an operation pressure to separate and collect a polyamide 6 oligomer in a solid phase, and an ϵ -caprolactam aqueous solution in a liquid phase.

EP 4 424 748 A8