

Retraction

Retracted: Quality Improvement and Robust Design Methods to a Pharmaceutical Research and Development

Mathematical Problems in Engineering

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Mathematical Problems in Engineering has retracted the article titled “Quality Improvement and Robust Design Methods to a Pharmaceutical Research and Development” [1]. The article was found to contain a substantial amount of material, without citation, from the following published article: “Cho, B. R., Choi, Y. & Shin, S. *Int J Adv Manuf Technol* (2010) 49: 839. doi:10.1007/s00170-009-2455-3” [2]. The authors stated that the previous article used censored data and the current article used noncensored data, which require different techniques to manage. The authors say that in the previous work, type 2 right-censoring schemes were developed and implemented in the robust design context, and thus the basic goals posed and the methods developed in the articles are entirely different. However, much of the text of the articles is the same, including most of the Introduction, Section 2, and Conclusions and parts of Sections 3 and 4.

References

- [1] B. R. Cho and S. Shin, “Quality improvement and robust design methods to a pharmaceutical research and development,” *Mathematical Problems in Engineering*, vol. 2012, Article ID 193246, 2012.
- [2] B. R. Cho, Y. Choi, and S. Shin, “Development of censored data-based robust design for pharmaceutical quality by design,” *International Journal of Advanced Manufacturing Technology*, vol. 49, no. 9–12, pp. 839–851, 2010.