Keywords: D-optimality; An exponential family; An information matrix; Distribution logical linear mode

Introduction

Toxicological assays are a fundamental and frequently-used method for analysing the e ects of chemicals in aquatic environments and determining the safe amounts at which these chemicals will not impair the development of aquatic species [1]. Reproduction is a frequent endpoint in these studies as it tells us about the population dynamics of the species in the ecosystem. us, in the presence of various concentrations of the studied chemical, these tests evaluate evolution in the reproduction of the species [2].

Techniques created in the area of optimal experimental design are highly bene cial in this type of controlled experiment. e goal

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Declaration of competing interest

e authors a rm that they have no known nancial or interpersonal con icts that would have appeared to have an impact on the research presented in this study.

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