The Carmen Choi Case

Carmen Choi is nearing the end of her biochemistry PhD at State Polytechnic University (SPU). She has successfully completed all her experiments, written a full draft of her dissertation which her advisor and her committee members are happy with, and has arranged a three-year postdoctoral fellowship in the lab of Prof. Cheryl Gruen in the biochemistry program at the prestigious Western Institute of Technology (West Tech). Her most pressing concern now is applying for a grant from the National Science Foundation (NSF) to help fund her postdoc.

Carmen has consulted with Prof. Gruen about extending her PhD research in a new direction for the postdoc. Carmen has what she thinks is a promising plan to modify the structure of proteins that occur naturally in the membranes of a particular kind of algae and to see whether these structural modifications will allow the algae to catalyze reactions that break down long-chain hydrocarbons to smaller molecules. If the algae with modified proteins act as anticipated, Carmen believes they may be useful for bioremediation of oil spills.

Because of her earlier experiments modifying proteins in biological systems to change their reactivity, Carmen is confident that her experimental strategy is likely to be successful. However, as she is writing her grant proposal, she finds that she is becoming more and more nervous about the peer review process her proposal will undergo. Bioremediation is a "hot topic" in the field, and Carmen knows that reviewers with the relevant expertise to review her grant proposal are likely to be researchers who are working on very similar projects. She has heard mutterings from other researchers at SPU — including her PhD advisor — that sometimes peer reviewers steal good ideas from the grants they are reviewing.

As she is revising the section of the grant proposal that describes the experiments she has planned, Carmen hits on an idea to protect herself against theft: She could change her description of a step in the middle of the protein modification process to include a magnesium-containing intermediate instead of the manganese-containing compound she will actually use. Carmen reasons that introducing this

small error will be enough to make the experimental protocol useless if one of the peer reviewers tries to steal it (since her earlier experiments found that the kind of reactions she is proposing won't work with the magnesium-containing intermediate).

Carmen is pleased with the simplicity of this trap, but she has a twinge as she rereads the language on the NSF grant application form that both she and Prof. Gruen will have to sign. That language states that by signing the grant proposal they are affirming that the information presented in the proposal is original and accurate. If she introduces an intentional error to protect her idea against theft, Carmen realizes, her proposal will not be accurate. Carmen has not discussed the trap she is thinking of setting with Prof. Gruen, and she is not sure she should bother Gruen with her worries.

Should Carmen Choi go ahead with her plan to put an intentional error into her grant proposal to protect her idea from being stolen? Why or why not?