Dear editor,

We wish to submit our manuscript entitled “Gene-therapy inspired polycation coating for protection of DNA origami nanostructures” to the journal *JOVE* following your invitation. This manuscript is based on the previous work published in *Nanoscale* under the title “(Poly)cation-induced protection of conventional and wireframe DNA origami nanostructures”.

All authors approved the manuscript and this submission. The manuscript is provided with a supporting information.

DNA nanostructures are extremely vulnerable towards salt depletion and nucleases, the common condition in bodily fluids such as tissue culture media. In this study, we address both the long- and short-term stability of various DNA origami nanostructures. For long-term stabilization, we coated DNA nanostructures with chitosan and linear polyethyleneimine. Furthermore, we evaluated the impact of molecular weight and the charge density of these polycations on the stability of DNA nanostructures. Interestingly, we showed that uncoated DNA nanostructures remain stable and functional for a few days, opening the door for DNA origami structures in short-term biological applications. The manuscript will be of high interest to readers in the areas of nanotechnology, DNA origami, biologically inspired materials, nanomedicine and gene delivery.

We hope that the editorial board will share our view of interest of this study.

Thank you for receiving our manuscript and considering it for further review. We appreciate your time and look forward to your response.

Sincerely,

Ivan Barišić