

## **ABSTRACT**

Globally, there is a high prevalence of Human Immunodeficiency Virus (HIV), sexually transmitted infections (STIs), and unintended pregnancies. Current treatments, traditionally daily oral medications or physical barriers, can be ineffective due to reliance on strict user adherence. A long-acting multipurpose prevention technology to address all three indications could overcome acceptability and adherence-related limitations to improve efficacy. An intravaginal ring (IVR) can meet these goals while maintaining high acceptability by allowing for user control. Therefore, we present a long acting, multipurpose prevention intravaginal ring that sustains release of three active pharmaceutical ingredients (APIs) for  $\geq 30$  days *in vitro*. Three ring designs, one solid and two with varying geometric complexity, were designed in CAD, fabricated using Continuous Liquid Interface Production (CLIP™) and loaded with APIs through post-manufacture swelling. *In vitro* release studies showed all three designs sustain release for the targeted 30 days and two of three ring designs achieved daily release targets for efficacy of all three multipurpose prevention APIs.