

The Ansa pIVT vector series are *in vitro* transcription vectors designed for RNA production using a variety of reagents or commercially available kits. This technical note provides more detailed information about two key design features:

- ## Initiation Sequence

Conventional T7 promoter



Ansa pLVT vectors include 'segmented' 120 bp polyA sequences in the format A30-G-A30-G-A30-G-A30. This polyA sequence provides improved stability when grown in *E. coli* host strains with similar or improved efficacy compared to equivalent non-segmented polyA's. More detailed information can be found in reference 2 below. We have observed high stability for these regions up to shake flask plasmid Maxi-prep scales. Following the polyA sequence we have provided BspQI and EcoRV restriction sites for linearization of the plasmid. The polyA sequence and associated restriction sites are shown in fig. 2.



1. <https://www.neb.com/en-us/products/e2080-hiscribe-t7-mrna-kit-with-cleancap-reagent-ag>
2. Tomasz Spiewla, Karol Czubak, Zofia Pilch, Marek R Baranowski, Pawel S Krawczyk, Kamila Affek, Wiktor Antczak, Marta Szulc-Gasiorowska, Sebastian Chmielinski, Seweryn Mroczek, Michal Brouze, Dominika Nowis, Jakub Golab, Andrzej Dziembowski, Jacek Jemielity, Joanna Kowalska, PolyA tail segmentation improves the stability of the template DNA and increases the translatability of in vitro transcribed mRNA, *Nucleic Acids Research*, Volume 54, Issue 2, 27 January 2026, qkaf1412, <https://doi.org/10.1093/nar/qkaf1412>