



**Figure 8.** The Pol IV pathway of siRNA biogenesis. The variant form of RNA polymerase II (Pol II), known as Pol IV, generates single-stranded RNA (ssRNA) from a DNA template. The ssRNA is converted to a ds form by RdRP and then processed into 24-nt siRNAs by a DCL protein. The siRNA then binds to an AGO protein and it targets nascent transcripts in noncoding regions of the genome that are transcribed by a second variant form of Pol II known as Pol V. The AGO protein then recruits DNA methyltransferases to introduce methyl groups at cytosine bases (pink hexagon symbols) of the DNA template as well as other histone-modifying enzymes.