A non-archimedian Ax-Lindemann theorem

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The theorem of Ax-Lindemann is a functional transcendence result involving power series over the complex numbers and their exponentials. In the course of his proof of the André-Oort of product of moduli curves, Jonathan Pila established a theorem of Ax-Lindemann type where the exponential map is replaced by Weierstrass's modular j-function.

We prove a similar statement in the non-archimedean setting, for the uniformization of products of Mumford curves whose associated fundamental groups are non-abelian Schottky subgroups of $\mathrm{PGL}(2, \overline{\mathbf{Q}_p})$ contained in $\mathrm{PGL}(2, \overline{\mathbf{Q}})$.