

Table S1. Semiexperimental values for the B rotational constants of SiH_3I and residuals of the fit (MHz).

Isotopologue	$B(\text{se})$	Exp. – Calc.
$^{28}\text{SiH}_3\text{F}$	3229.106	0.039
$^{29}\text{SiH}_3\text{F}$	3153.211	-0.056
$^{30}\text{SiH}_3\text{F}$	3082.048	0.061

Table S2. Semiexperimental values for the rotational constants of HSiF and residuals of the fit (MHz).

Isotopologue	Constant	Exp. – Calc.
HSiF	A 229033(5000)	-639
	B 16964(4)	5.6
	C 15789(4)	-3.7
DSiF	A 120362(1000)	-180
	B 16509.7(20)	2.1
	C 14521.3(30)	2.0