Electronic Supporting Information (ESI)

Entropy differences between hydrides and other elements

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Table S1 Volume difference, standard entropy difference and standard enthalpy difference.

Hydrides	Volume difference ΔV /cm^3/molH_2	Standard entropy difference ΔS /J/KmolH_2	Standard enthalpy difference ΔH /kJ/molH_2
LiH	-5.61	-18.3	-181
NaH	-12.9	-22.3	-113
KH	-31.8	-29.3	-115
RbH	-45.2	-39.3	-108
CsH	-63.6	-39.3	-114
MgH_2	4.18	-1.60	-75.3
CaH_2	-1.26	-0.30	-182
SrH_2	-5.70	-25.6	-198
BaH_2	-4.44	0.50	-177
TiH_2	2.68	-1.30	-144
ZrH_2	2.66	-4.30	-169
NbH_2	2.49	-2.30	-40.0
ThH_2	4.80	-1.30	-140
UH_3	6.17	-7.30	-84.8
$LaNi_5H_6$ ($LaNi_5H_{6.7}$)	3.99, 4.20	21.7, 22.7	-30.1, -30.8
TiFeH	3.19	24.7	-28.1
NH_3	10.9, 13.0	23.7	-50.5
MCH	6.92	8.7	-67.5