

Supplementary material

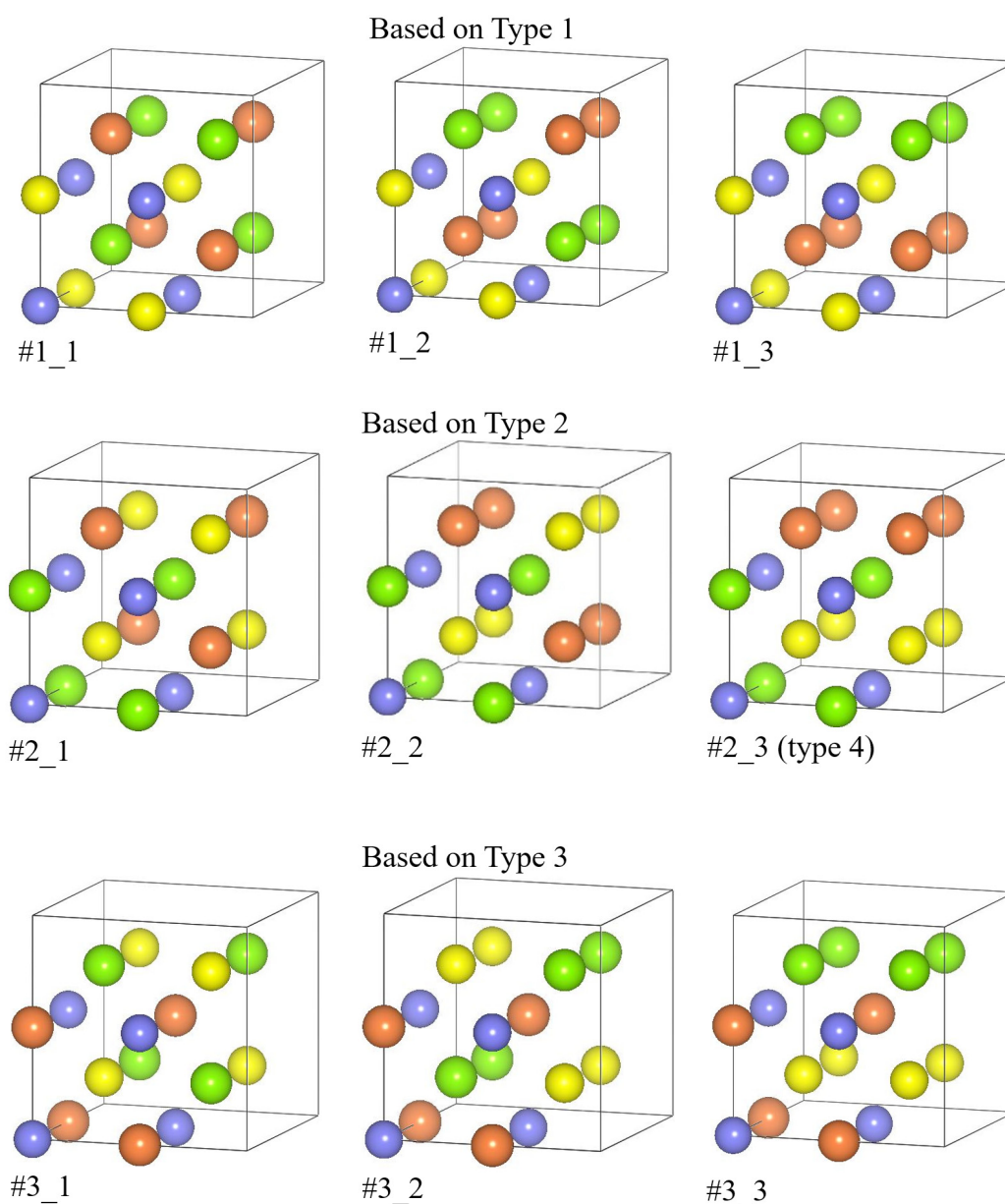


Fig. S1. (Color online) All considered atomic configurations for FeMnVGe.

Table S1. All atom distribution at Wyckoff positions for the parent crystal structures considered.

Structure	4a	4b	4c	4d
#1_1	Ge	Fe	Mn	V
#1_2	Ge	Fe	V	Mn
#1_3	Ge	Fe	Mn/V	Mn/V
#2_1	Ge	V	Mn	Fe
#2_2	Ge	V	Fe	Mn
#2_3	Ge	V	Mn/Fe	Mn/Fe
#3_1	Ge	Mn	V	Fe
#3_2	Ge	Mn	Fe	V
#3_3	Ge	Mn	V/Fe	V/Fe