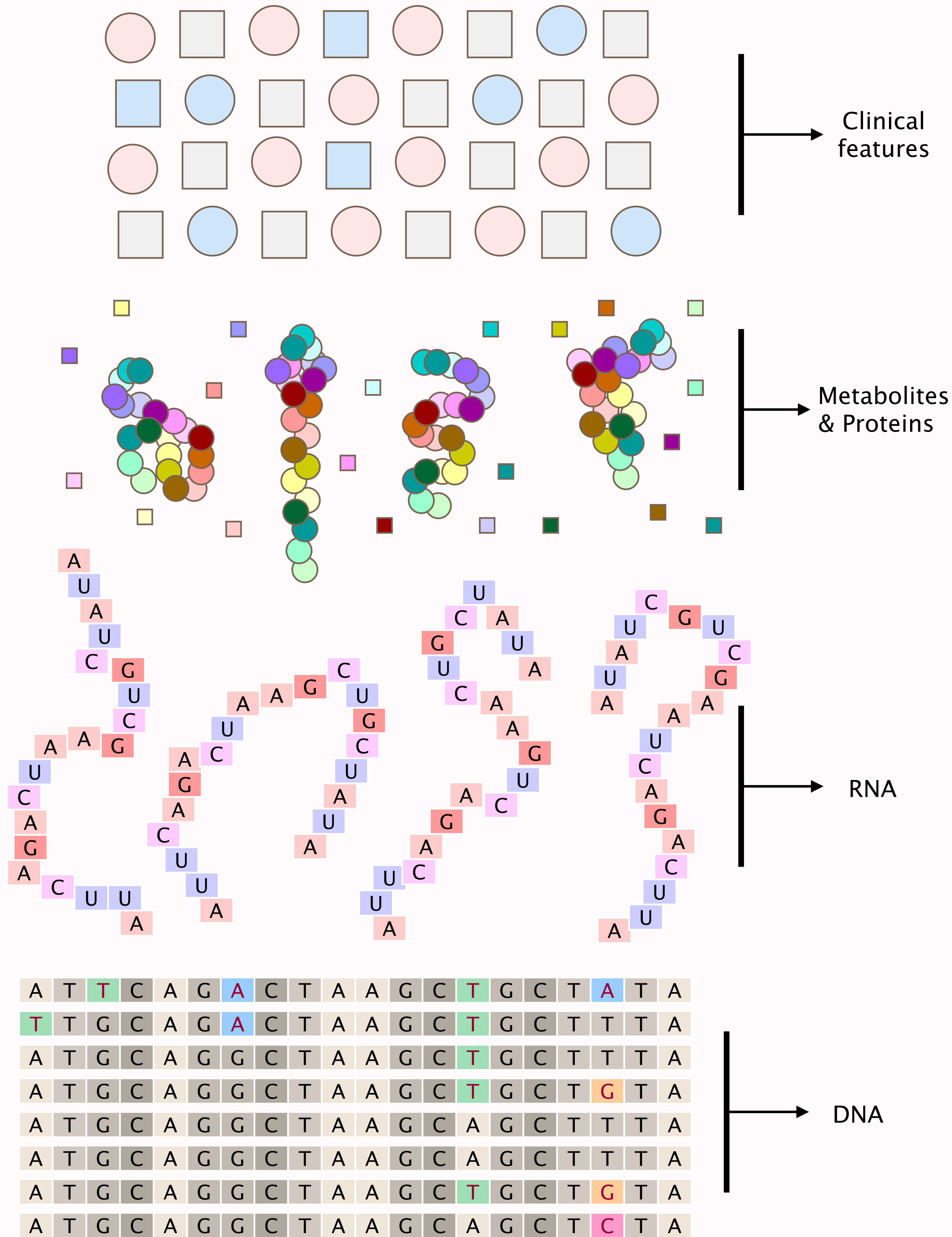
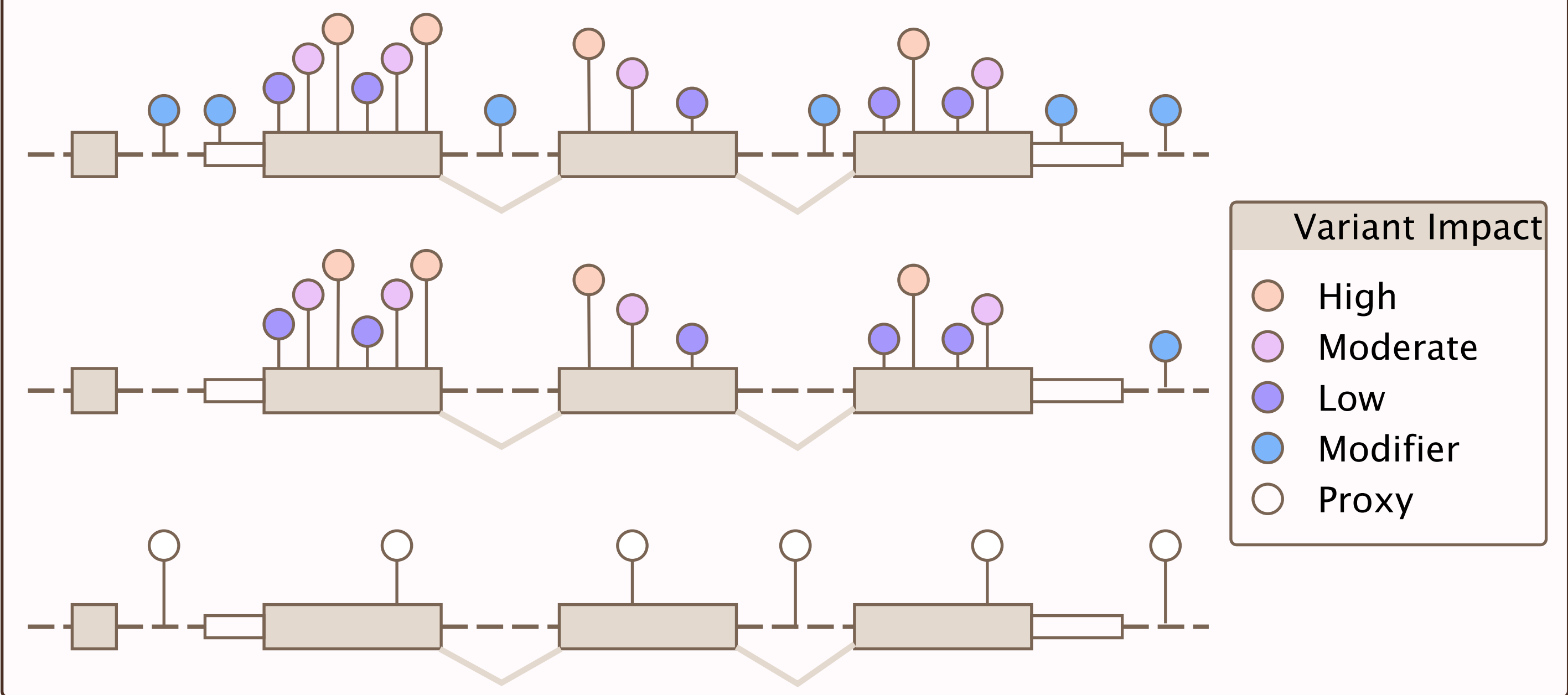


Multi-omics



Variant effect



Sequence dataset

S1	A	T	T	C	A	G	A	C	T	A	A	G	C	T	G	C	T	A	T	A
S2	T	T	G	C	A	G	A	C	T	A	A	G	C	T	G	C	T	T	T	A
S3	A	T	G	C	A	G	G	C	T	A	A	G	C	T	G	C	T	T	T	A
...	A	T	G	C	A	G	G	C	T	A	A	G	C	T	G	C	T	G	T	A
...	A	T	G	C	A	G	G	C	T	A	A	G	C	A	G	C	T	T	T	A
...	A	T	G	C	A	G	G	C	T	A	A	G	C	T	G	C	T	G	T	A
Sn	A	T	G	C	A	G	G	C	T	A	A	G	C	A	G	C	T	C	T	A

Very rare Rare shared Common Multiple rare

Decomposed genotype matrix

S1	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
S2	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
S3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
...	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Sn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0

Very rare Rare shared Common Decomposed multi-allele*