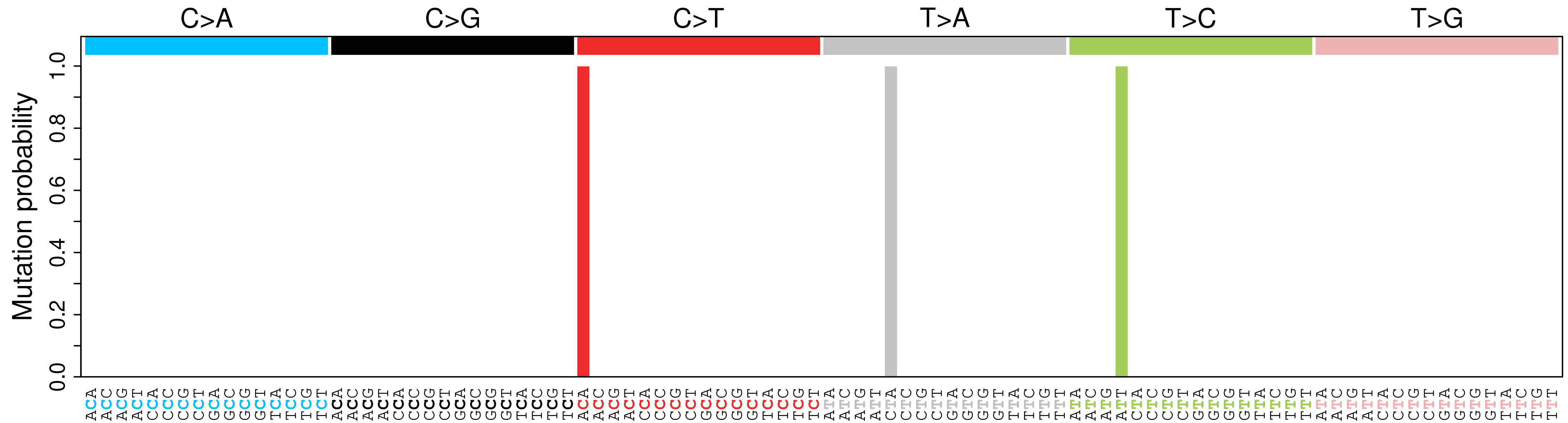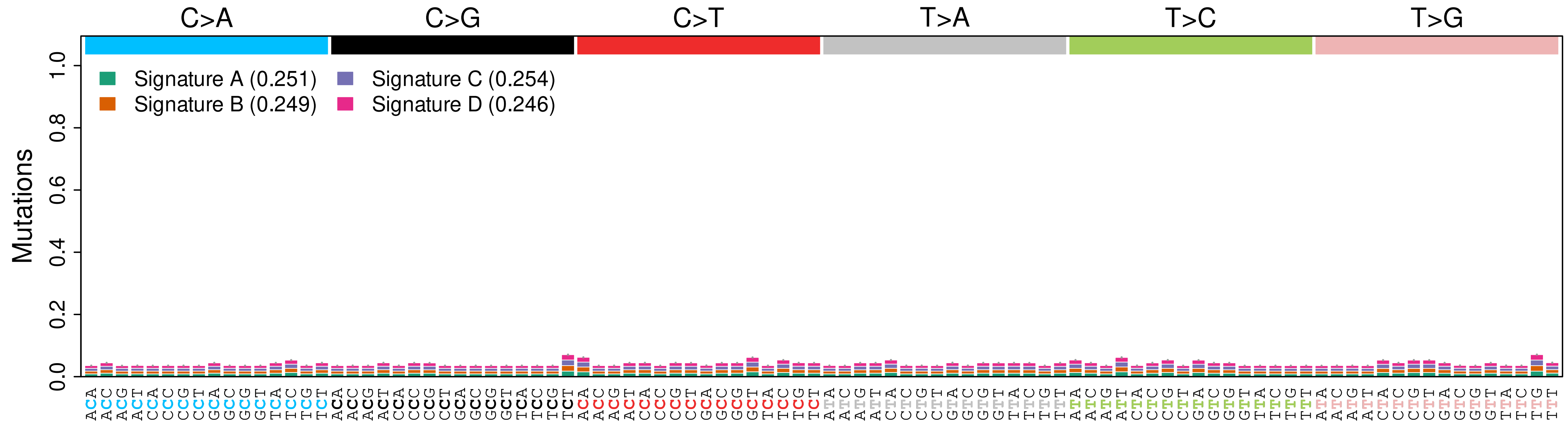**CATD343a**
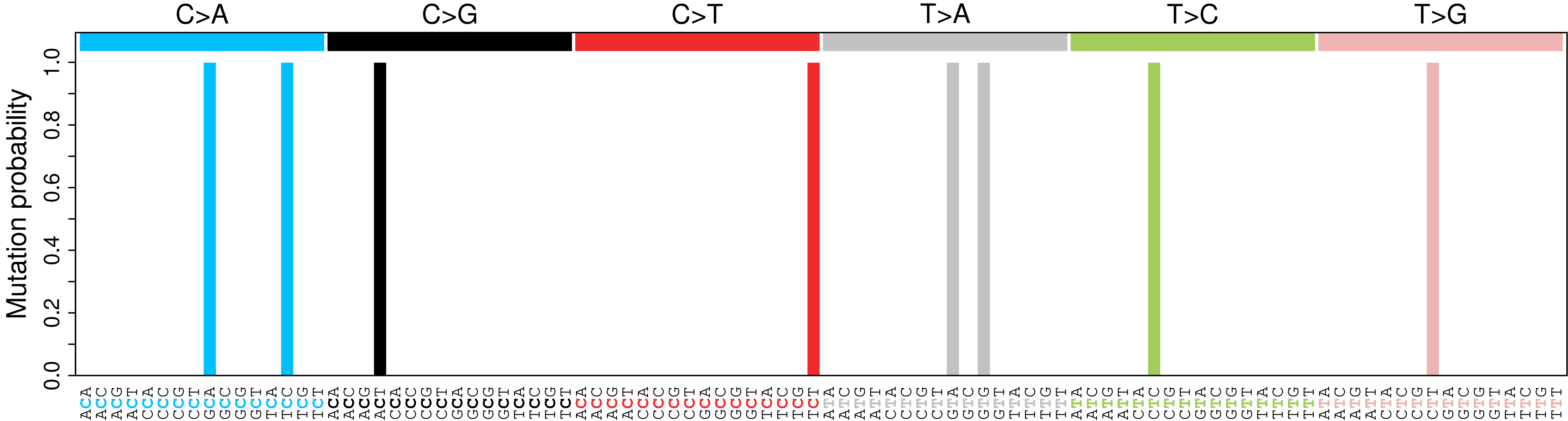
Reconstructed spectrum (cosine similarity = 0.246)

Signature A (0.251)   Signature C (0.254)
Signature B (0.249)   Signature D (0.246)

CATD336a

Reconstructed spectrum (cosine similarity = 0.317)

Signature A (0.251) Signature C (0.247)
Signature B (0.254) Signature D (0.249)

CATD0547a

Reconstructed spectrum (cosine similarity = 0.152)

Signature A (0.249)   Signature C (0.25)
Signature B (0.25)   Signature D (0.25)
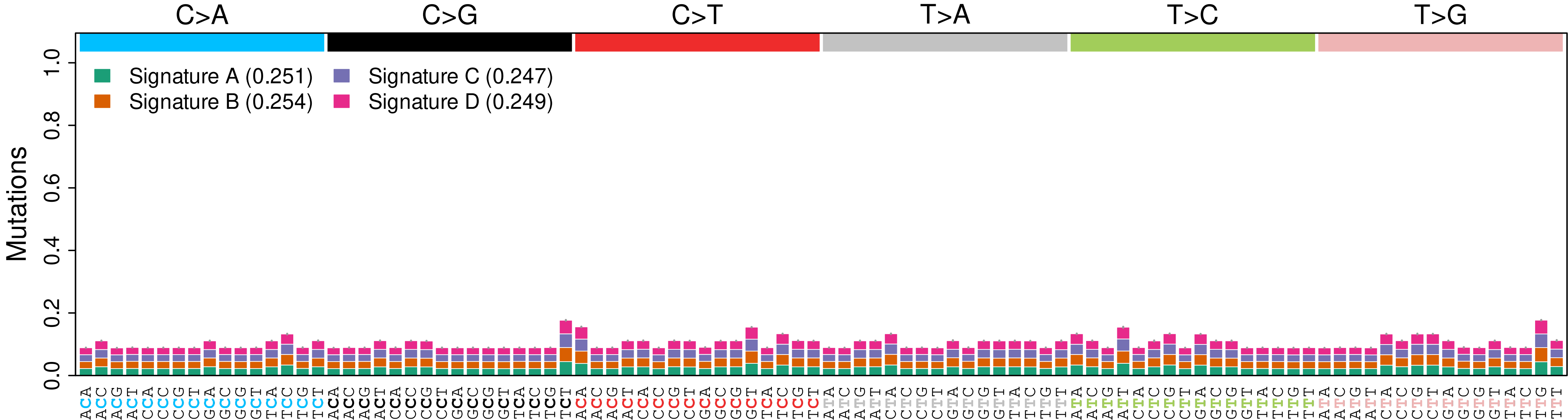
CATD0558a

Reconstructed spectrum (cosine similarity = 0.181)

Signature A (0.251)   Signature C (0.251)
Signature B (0.25)   Signature D (0.248)
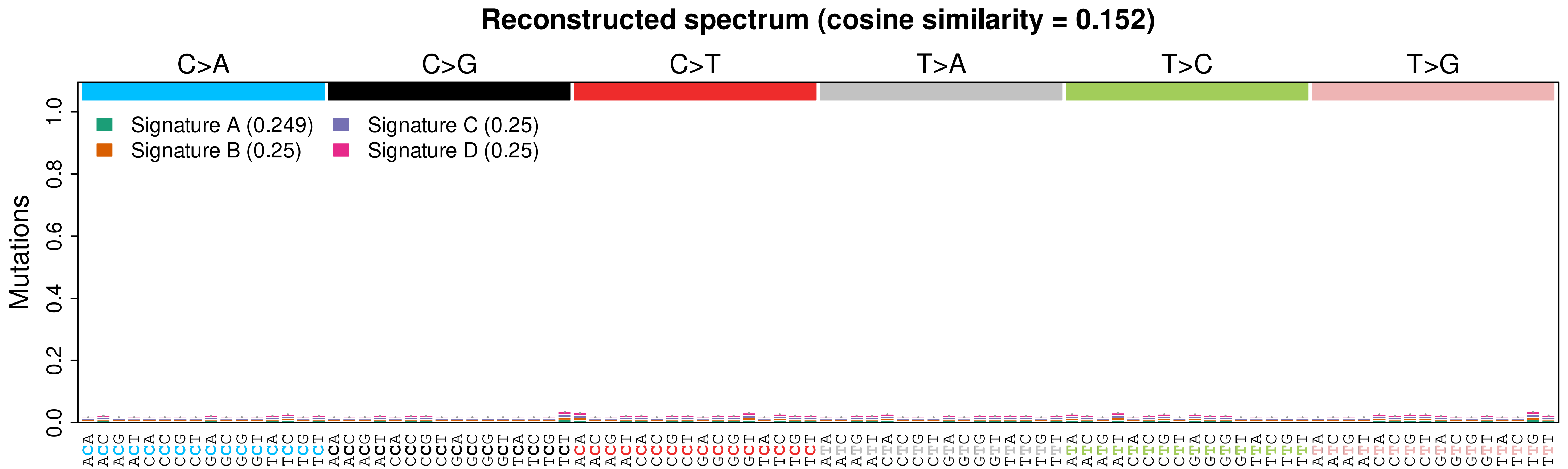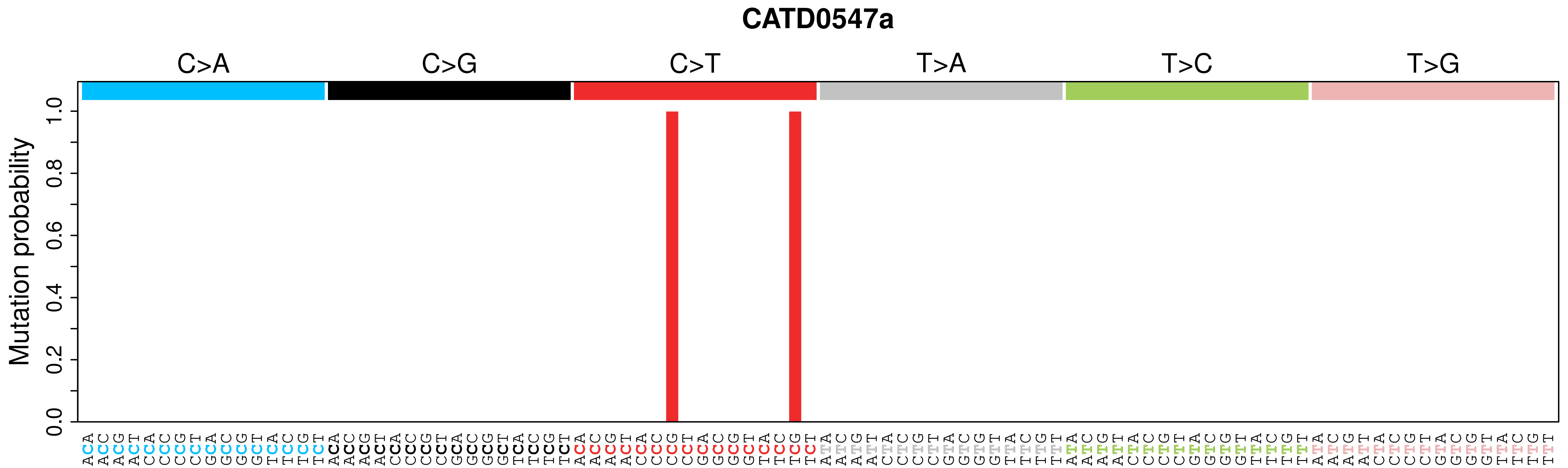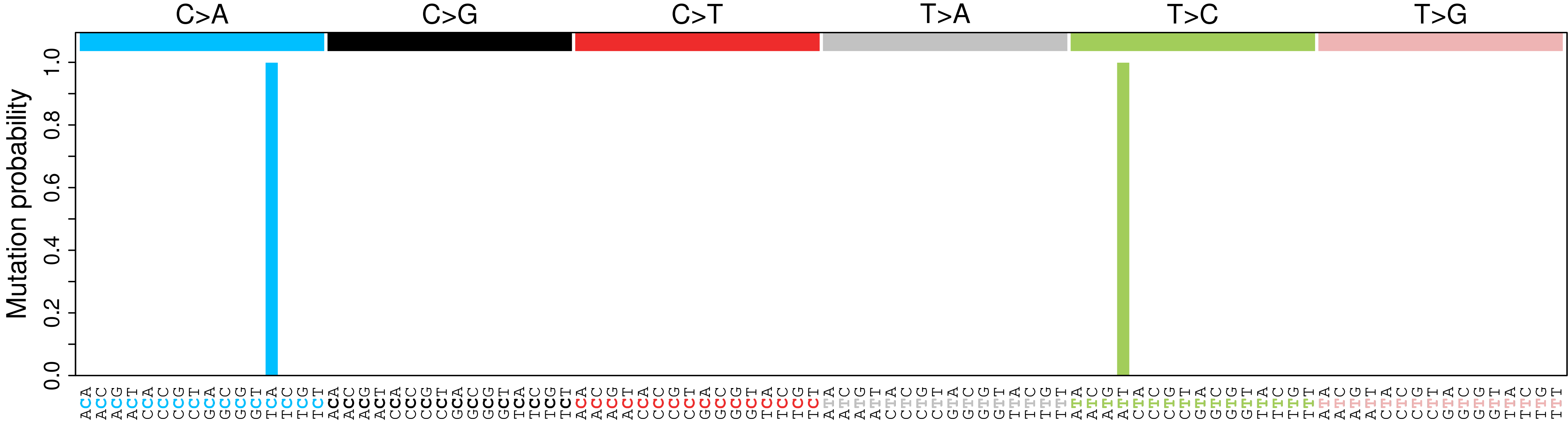
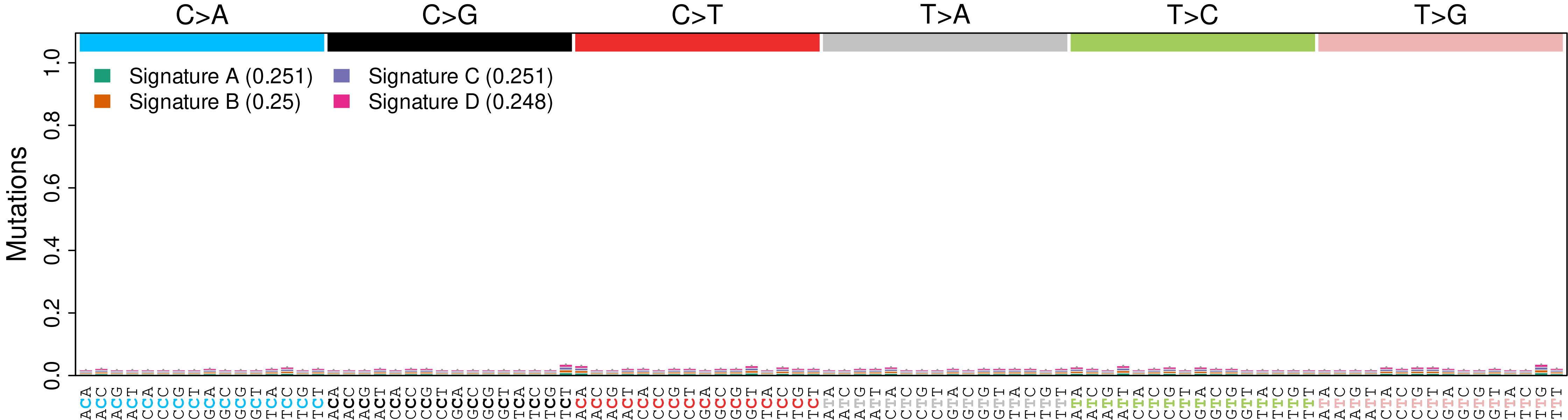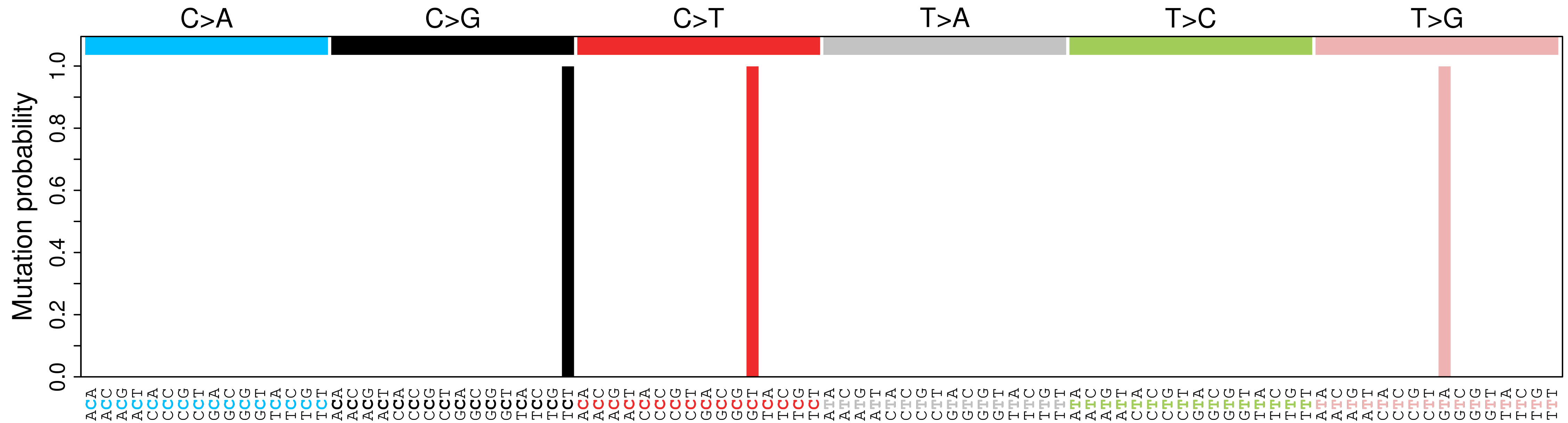**CATD337a**

Reconstructed spectrum (cosine similarity = 0.246)

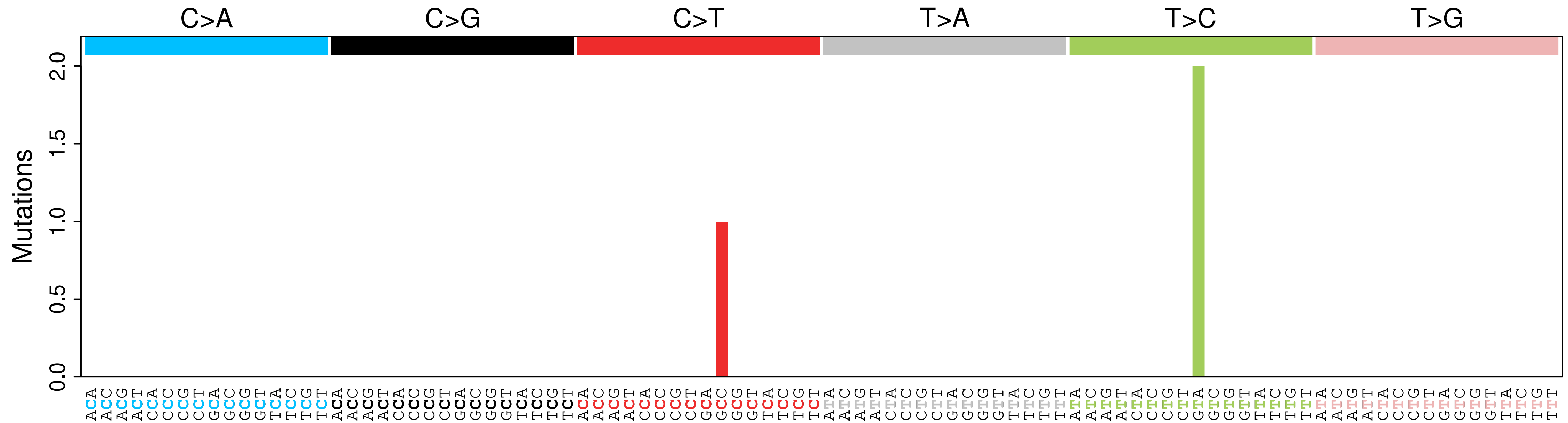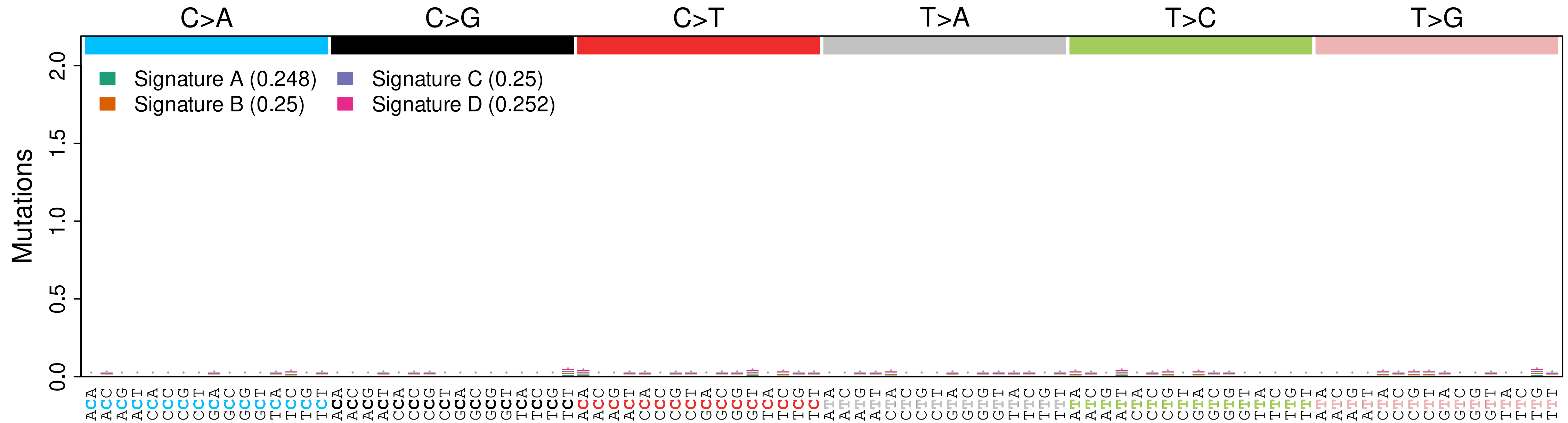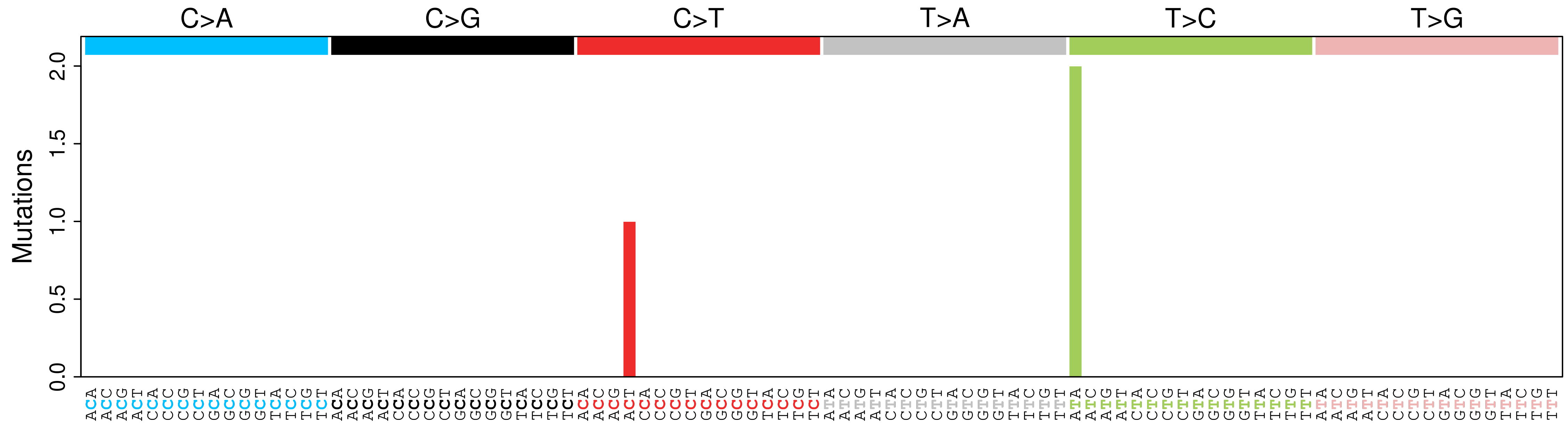Signature A (0.249) Signature C (0.251)
Signature B (0.25)   Signature D (0.25)
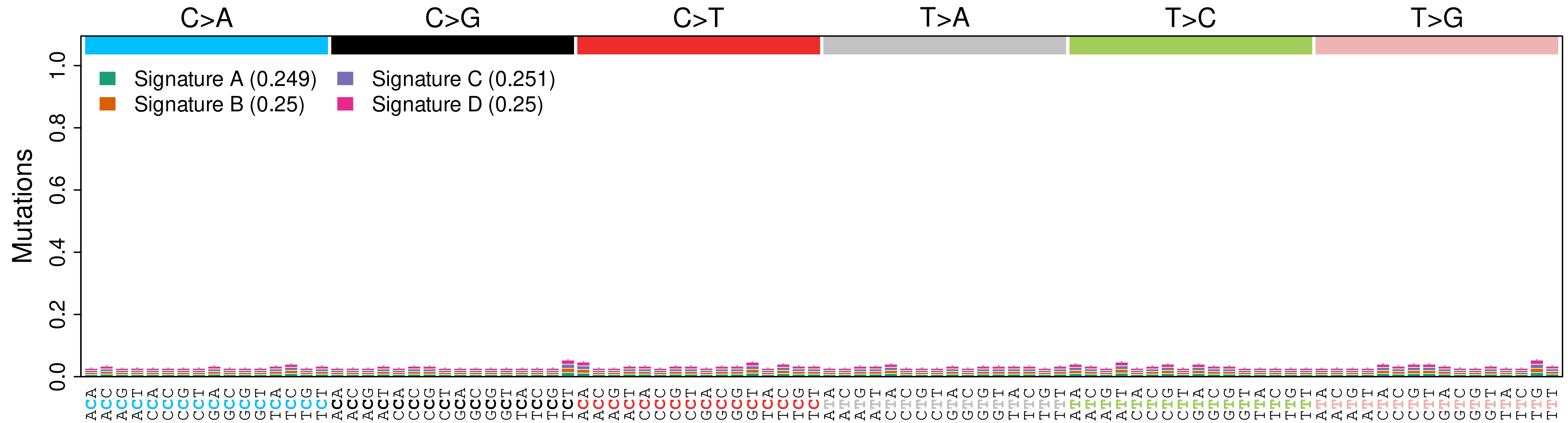
CATD331a (3 mutations)

Reconstructed spectrum (cosine similarity = 0.162)

Signature A (0.248) Signature C (0.25)
Signature B (0.25)   Signature D (0.252)
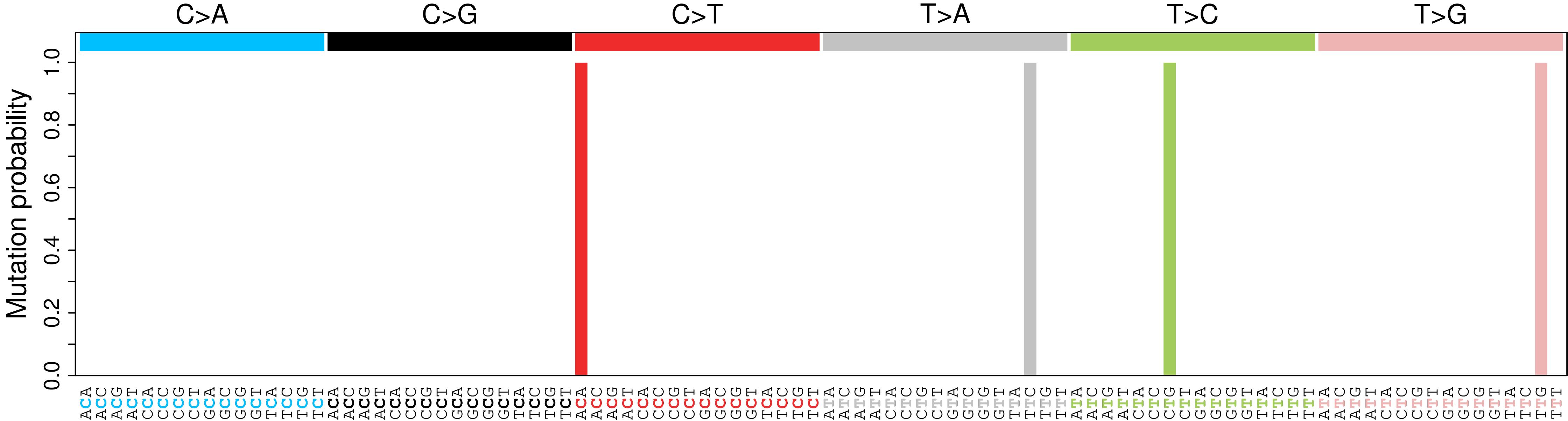
CATD0550a (3 mutations)

Reconstructed spectrum (cosine similarity = 0.163)

Signature A (0.251)
Signature C (0.25)
Signature B (0.248)
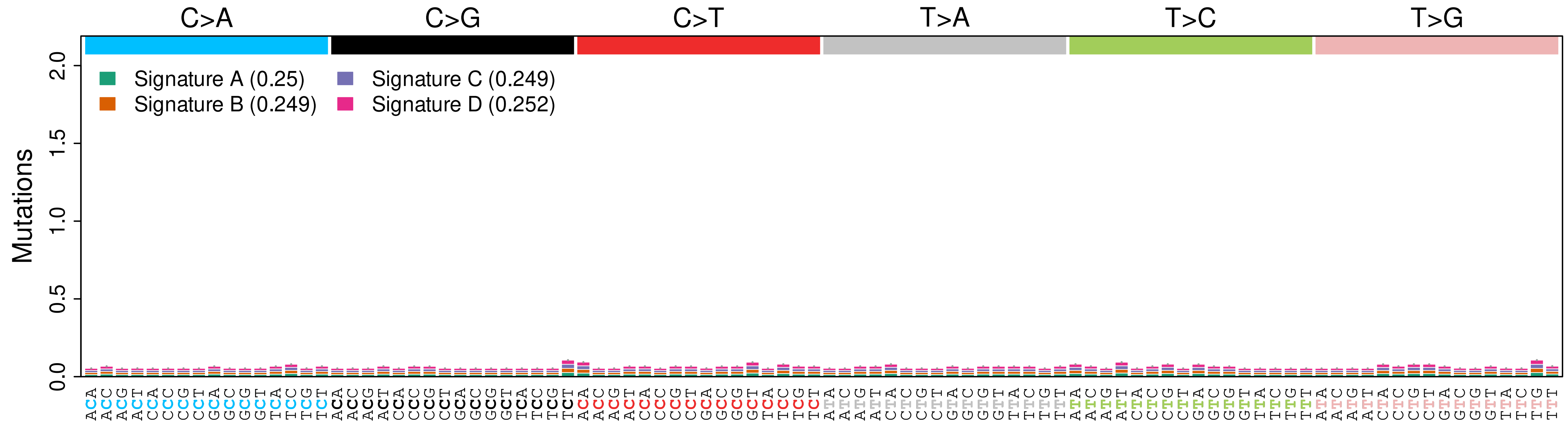Signature D (0.252)
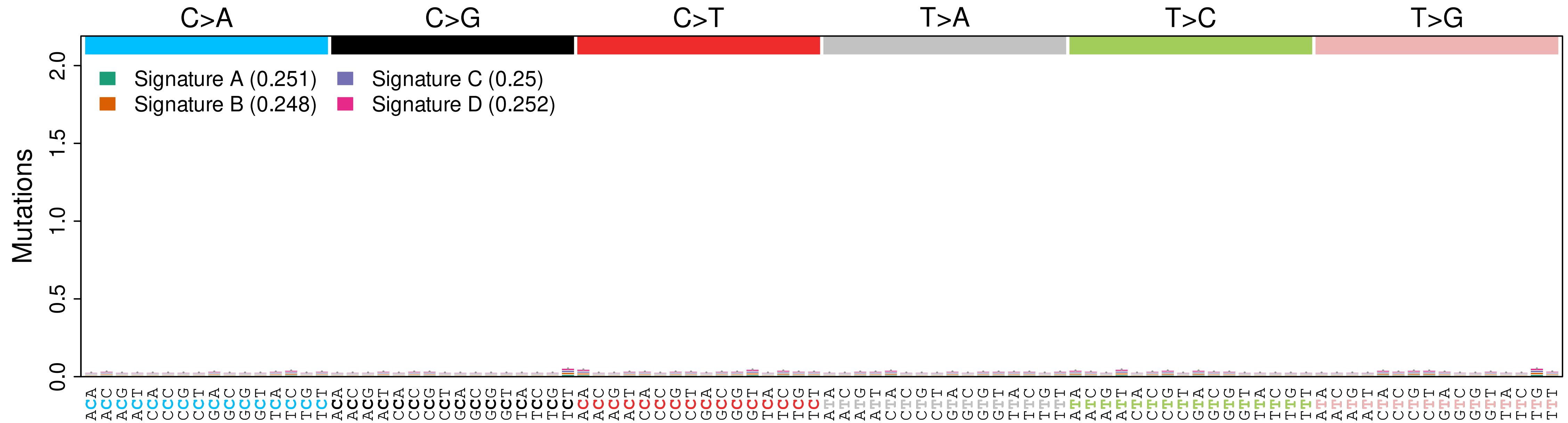
CATD334a

Reconstructed spectrum (cosine similarity = 0.277)

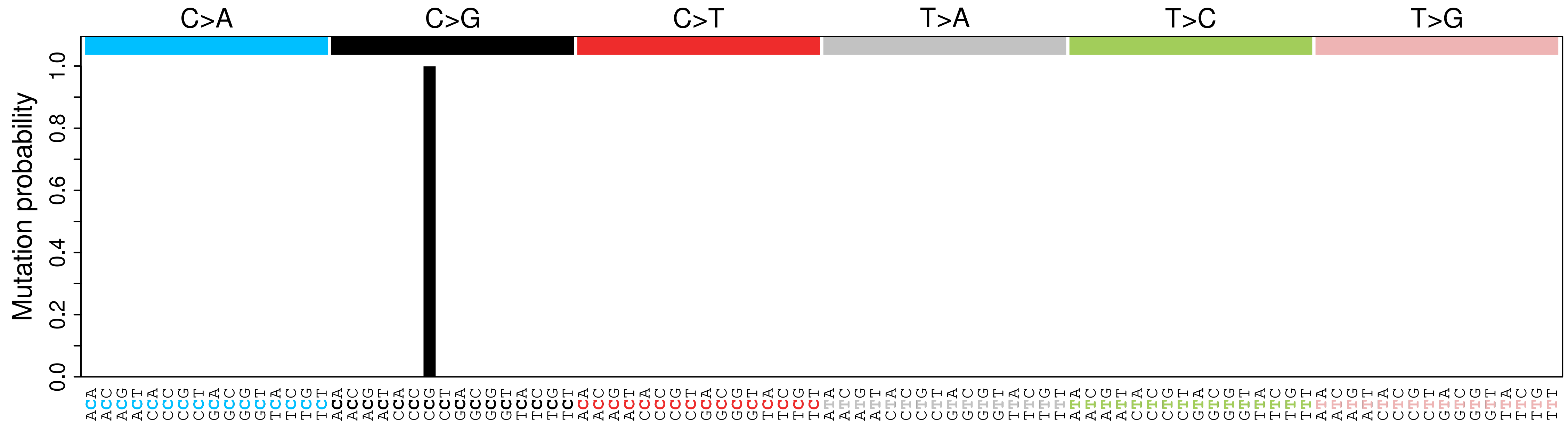Signature A (0.249)   Signature C (0.251)
Signature B (0.25)   Signature D (0.25)
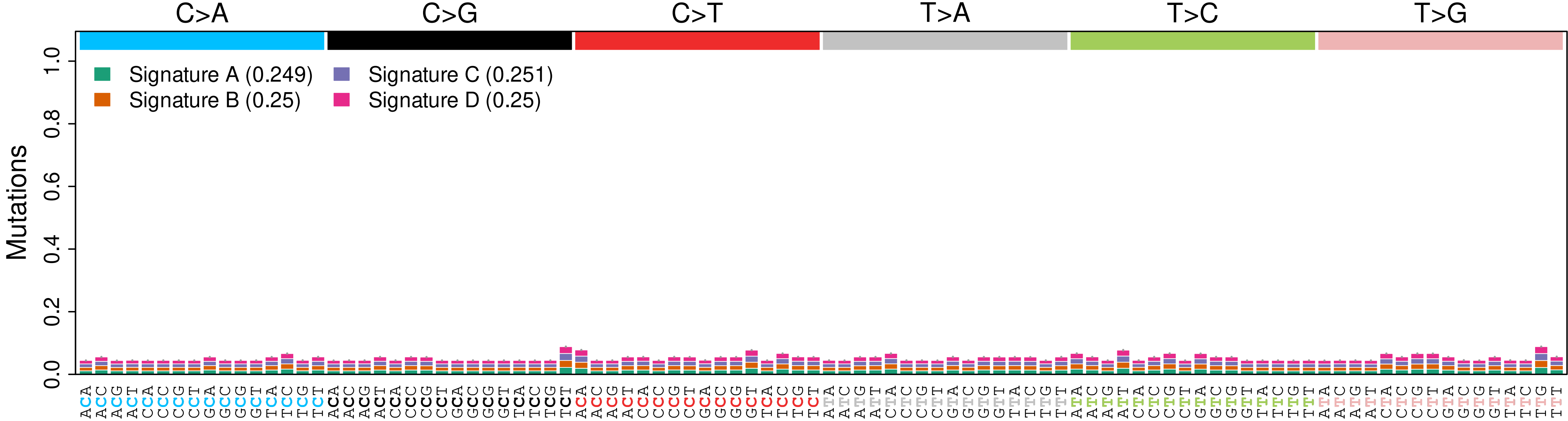
CATD0557a (5 mutations)

Reconstructed spectrum (cosine similarity = 0.242)
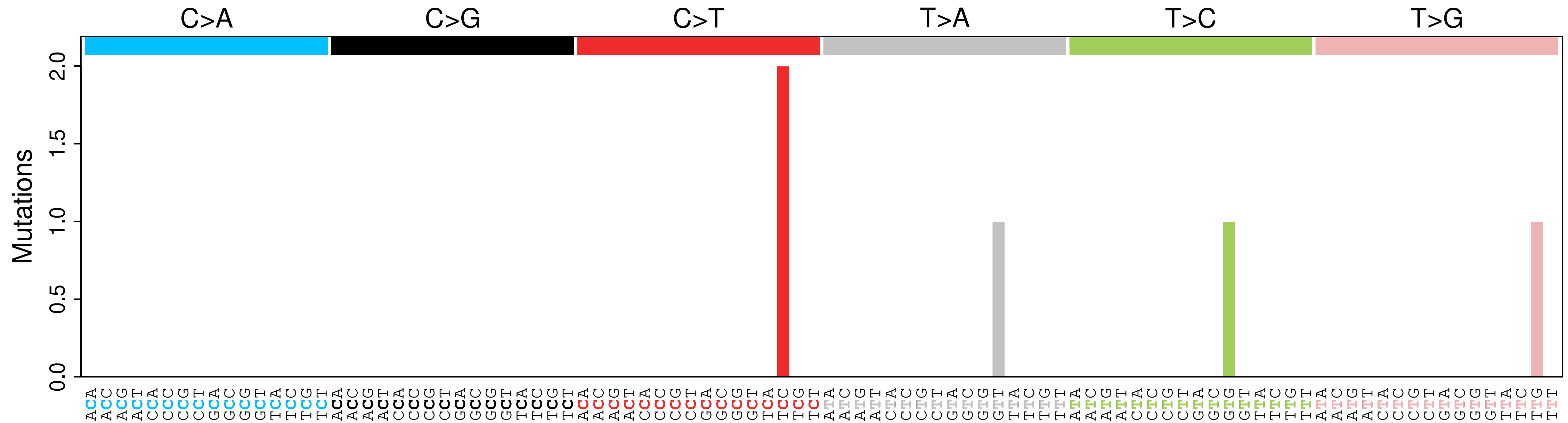
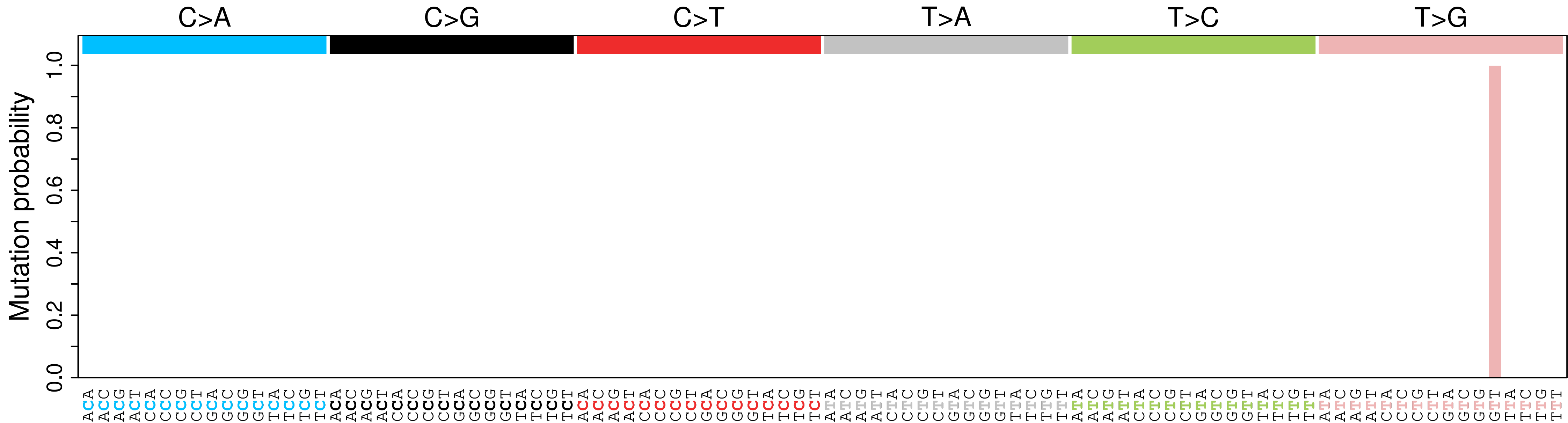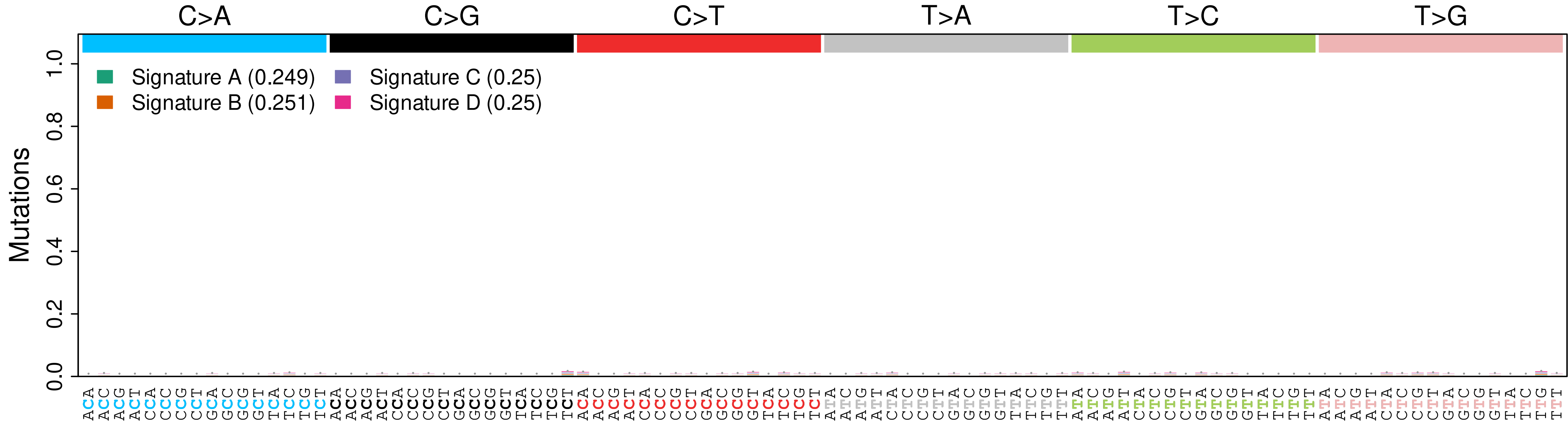Signature A (0.25) Signature C (0.249)
Signature B (0.249) Signature D (0.252)

CATD0540a

Reconstructed spectrum (cosine similarity = 0.106)

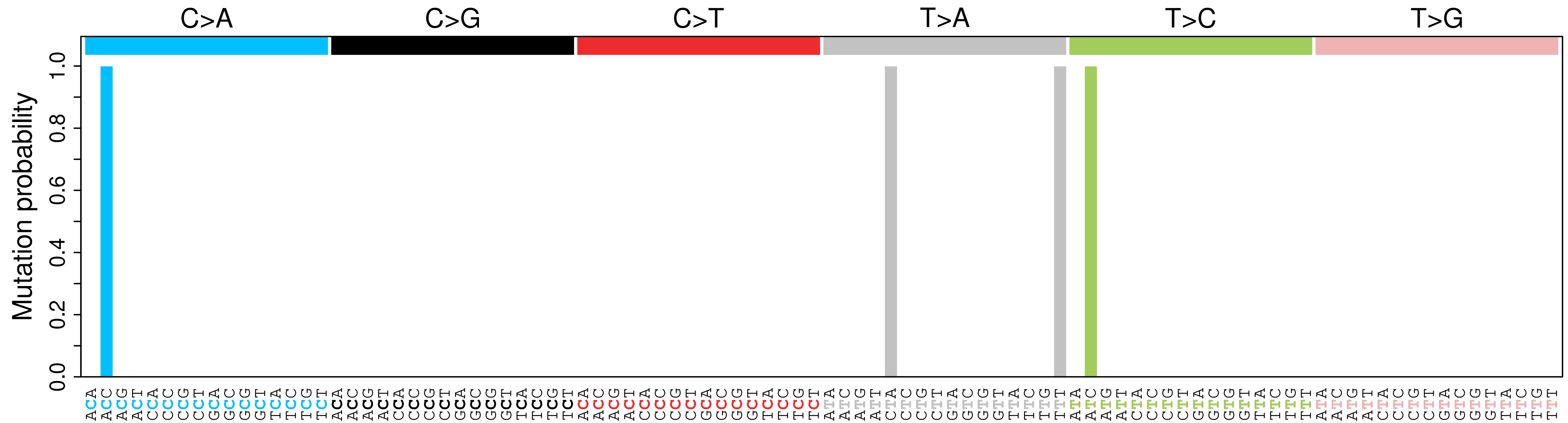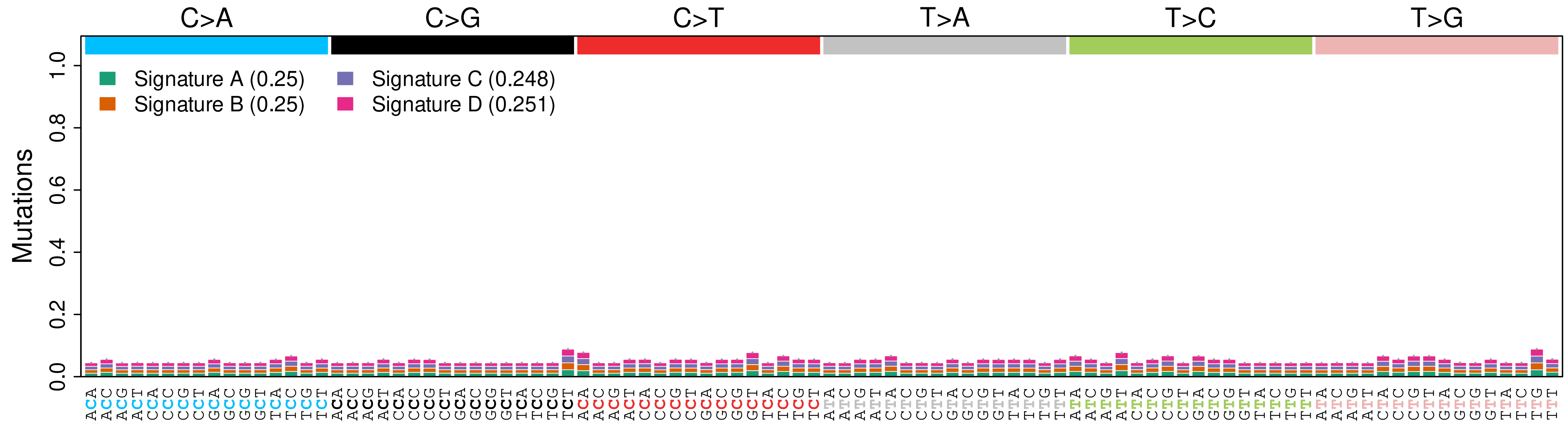Signature A (0.25) Signature C (0.249)
Signature B (0.251) Signature D (0.25)
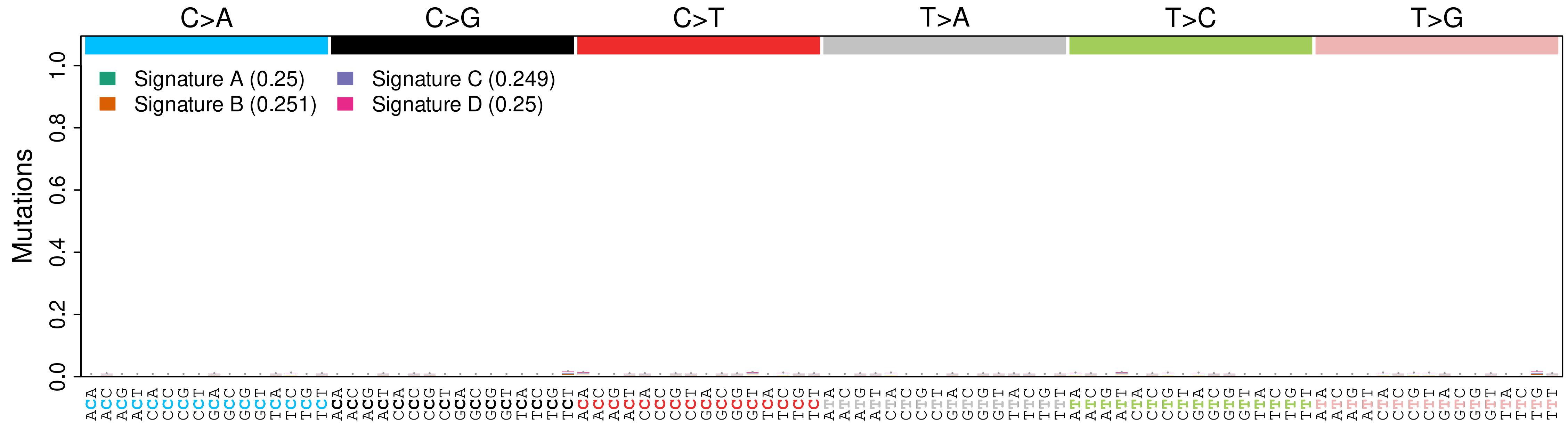
CATD344a

Reconstructed spectrum (cosine similarity = 0.107)

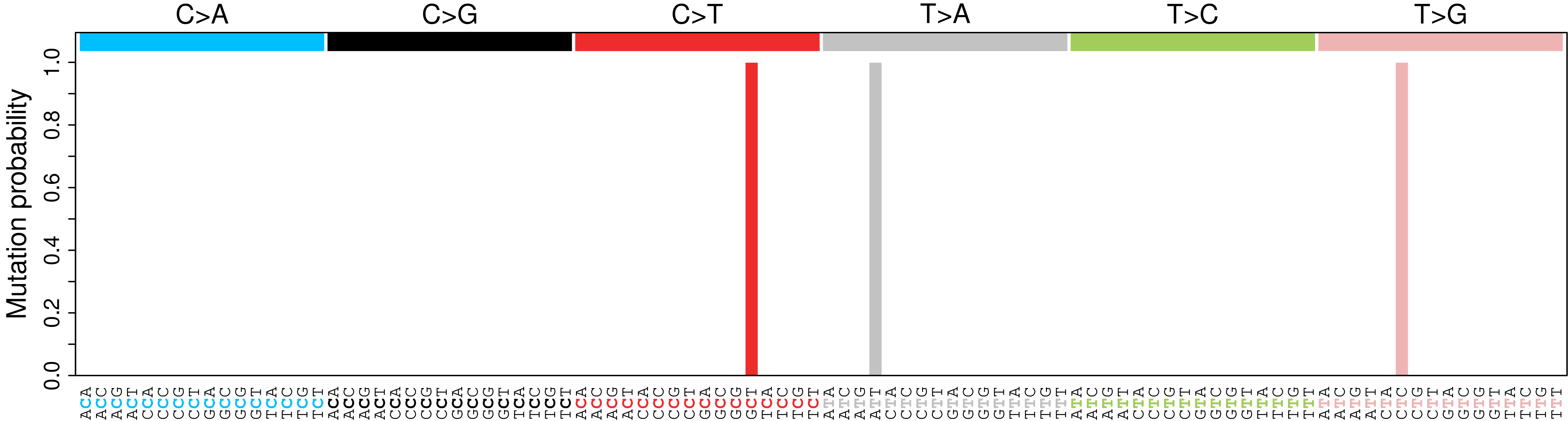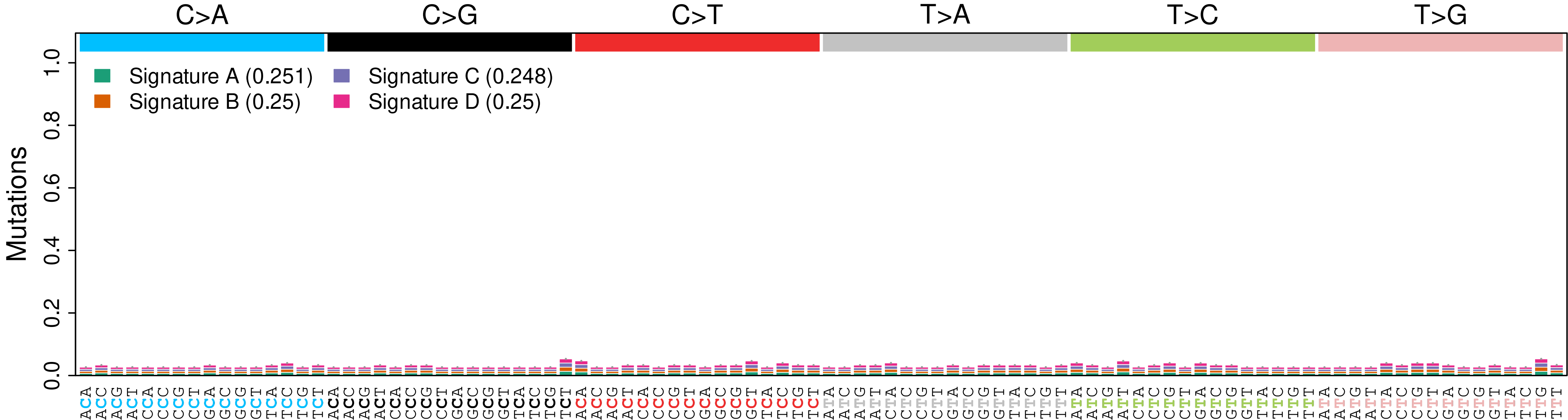Signature A (0.249) Signature C (0.25)
Signature B (0.251) Signature D (0.25)

CATD0545a

Reconstructed spectrum (cosine similarity = 0.225)

Signature A (0.25) Signature C (0.248)
Signature B (0.25) Signature D (0.251)

CATD0554a

Reconstructed spectrum (cosine similarity = 0.209)

Signature A (0.251) Signature C (0.248)
Signature B (0.25)   Signature D (0.25)

CATD0541a (2 mutations)

Reconstructed spectrum (cosine similarity = 0.17)

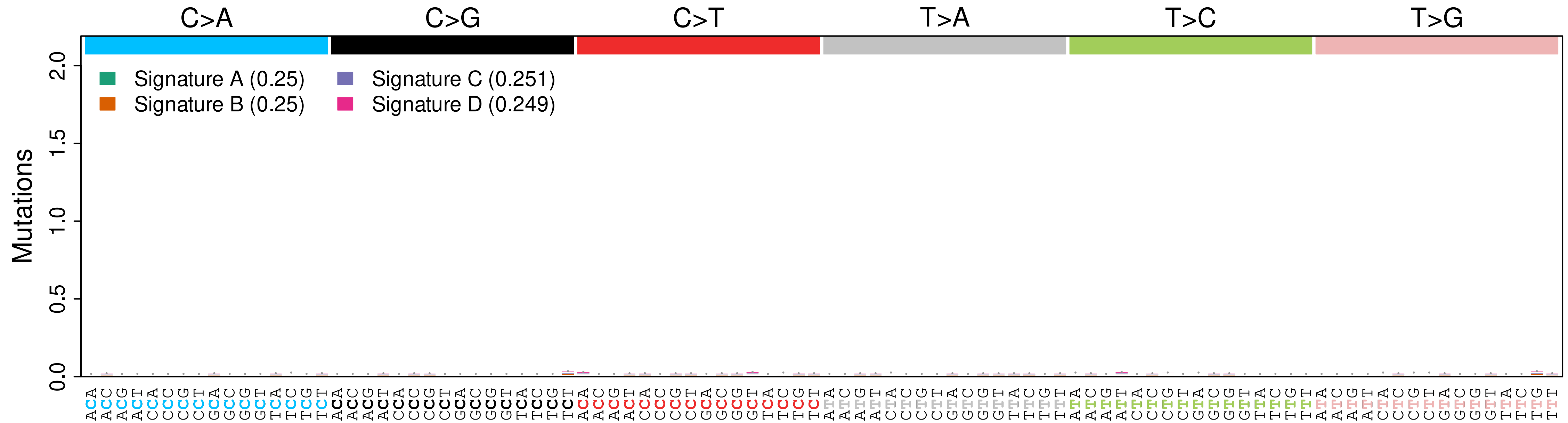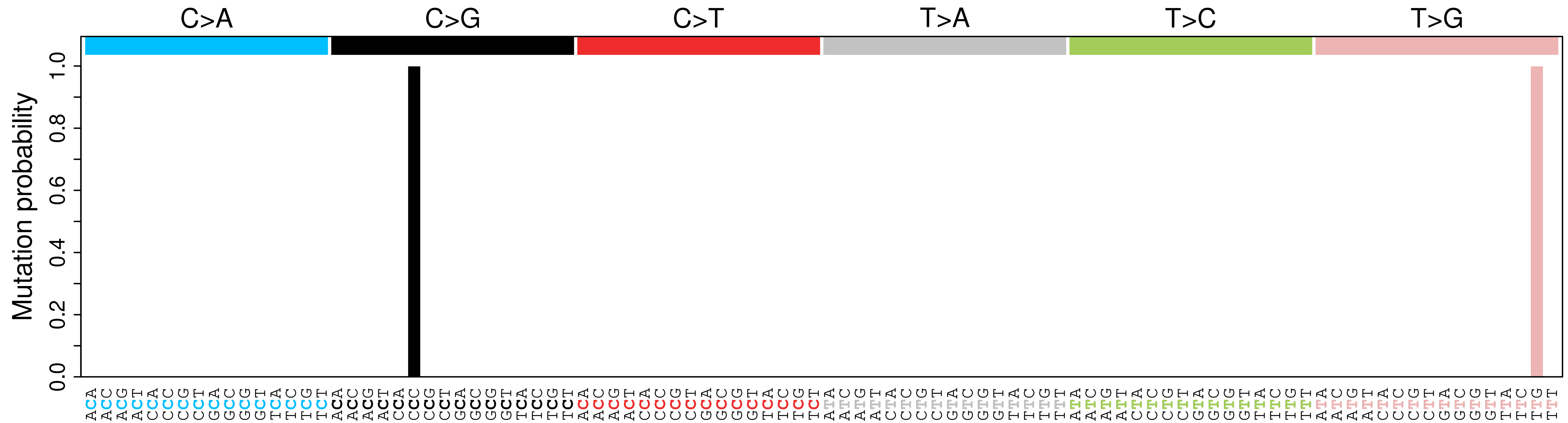Signature A (0.25) Signature C (0.251)
Signature B (0.25) Signature D (0.249)
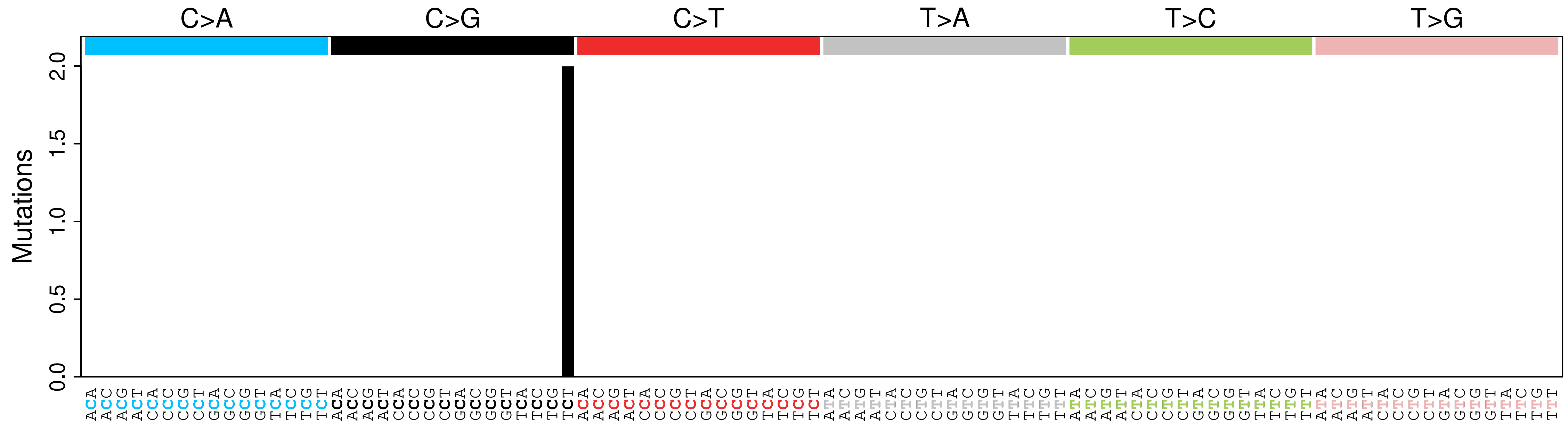
CATD0556a

Reconstructed spectrum (cosine similarity = 0.196)

Signature A (0.25) Signature C (0.25)
Signature B (0.251) Signature D (0.249)
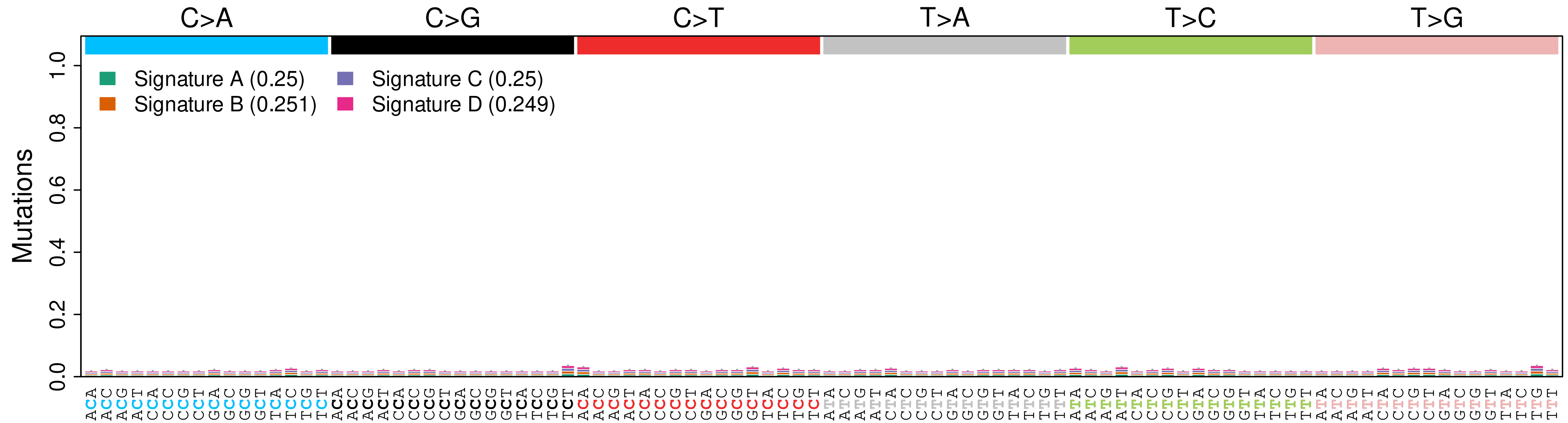
CATD335a

Reconstructed spectrum (cosine similarity = 0.128)

Signature A (0.248)   Signature C (0.251)
Signature B (0.25)   Signature D (0.25)

CATD0546a
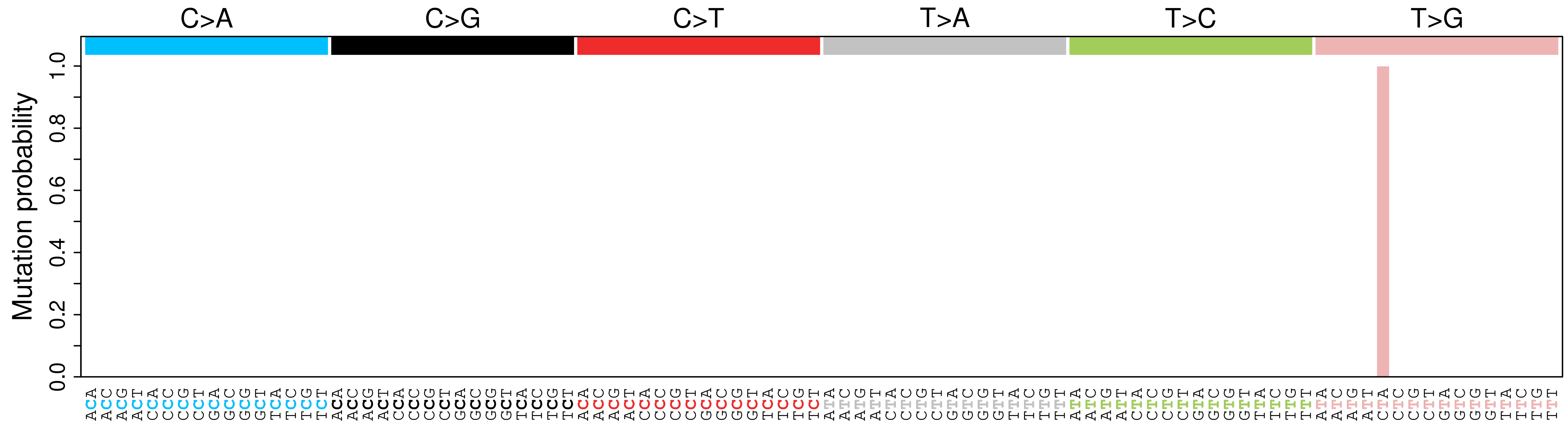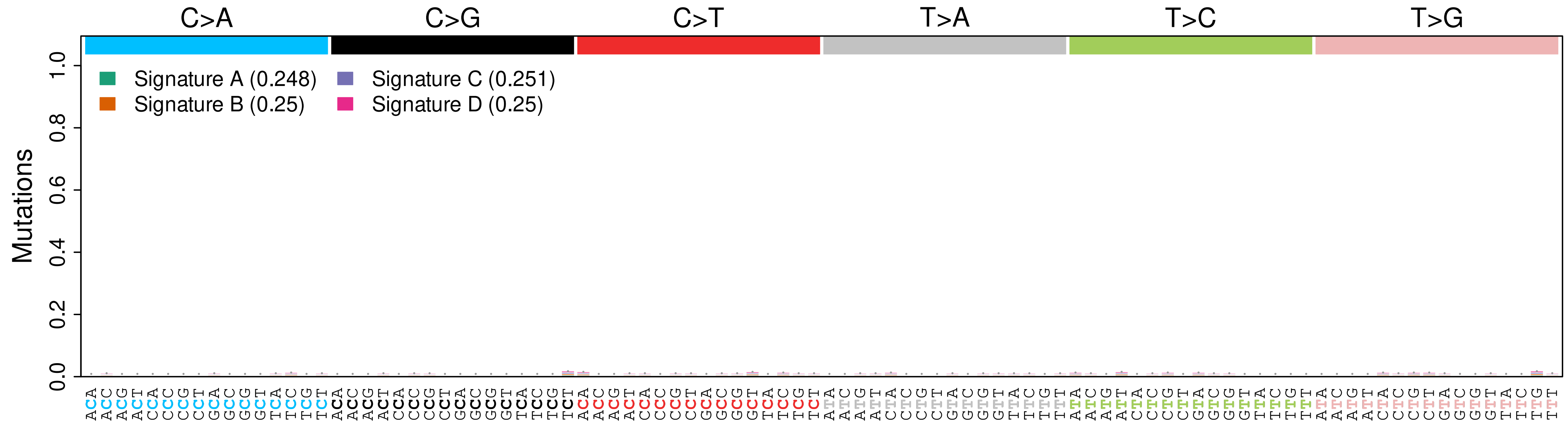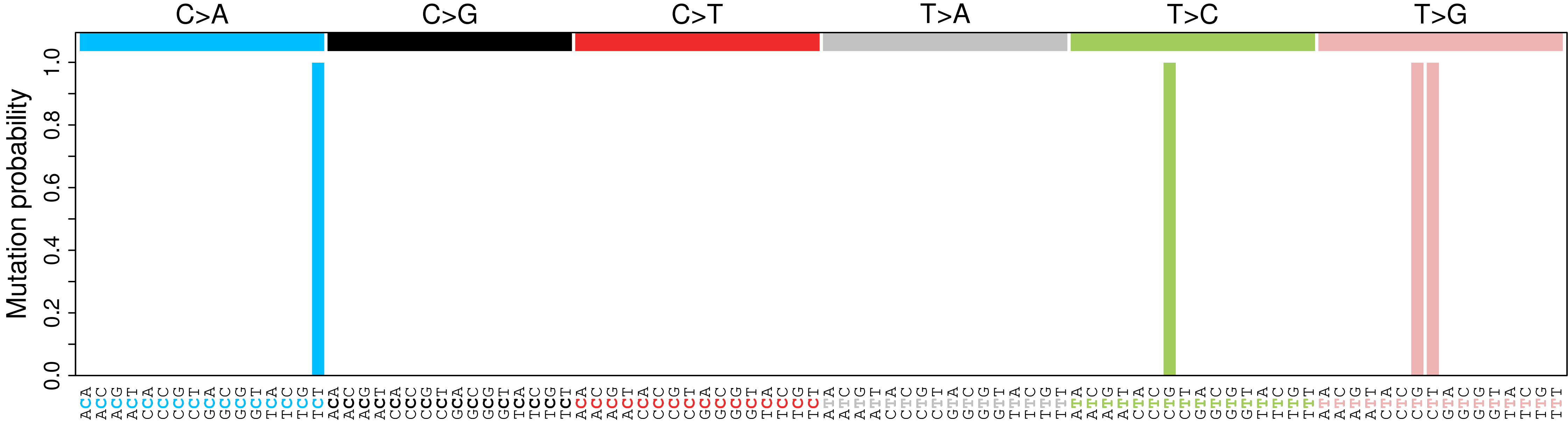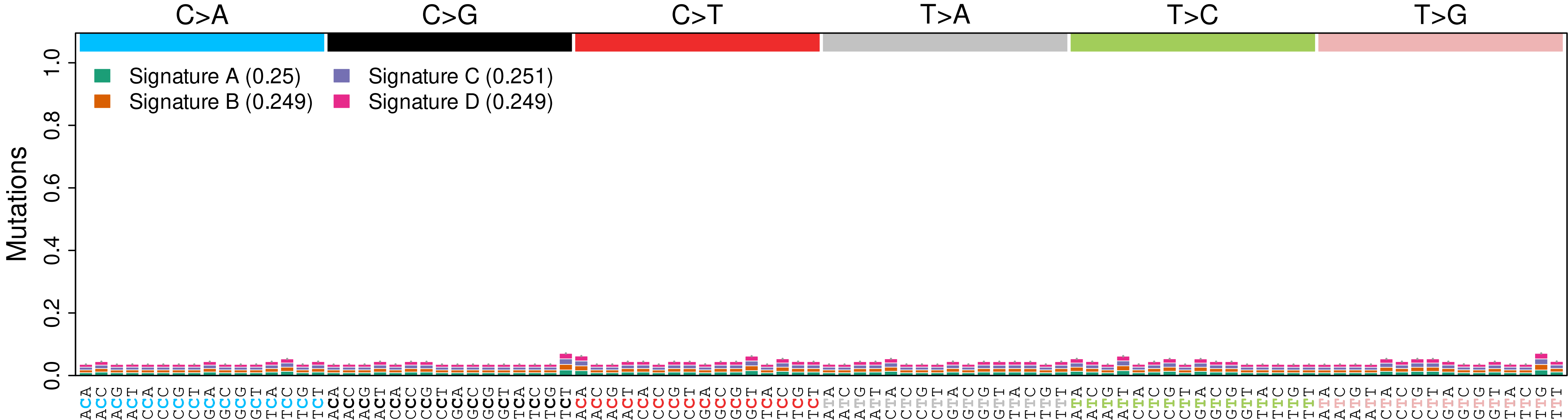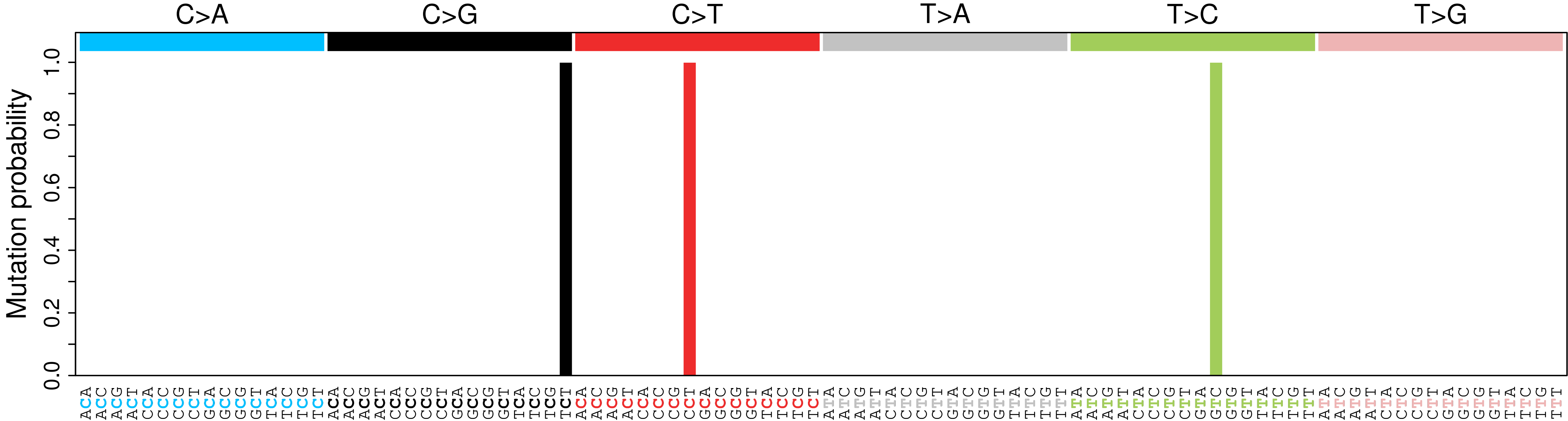
Reconstructed spectrum (cosine similarity = 0.246)

Signature A (0.25)   Signature C (0.251)
Signature B (0.249) Signature D (0.249)

CATD0542a

Reconstructed spectrum (cosine similarity = 0.221)

Signature A (0.249) Signature C (0.252)
Signature B (0.25)   Signature D (0.249)
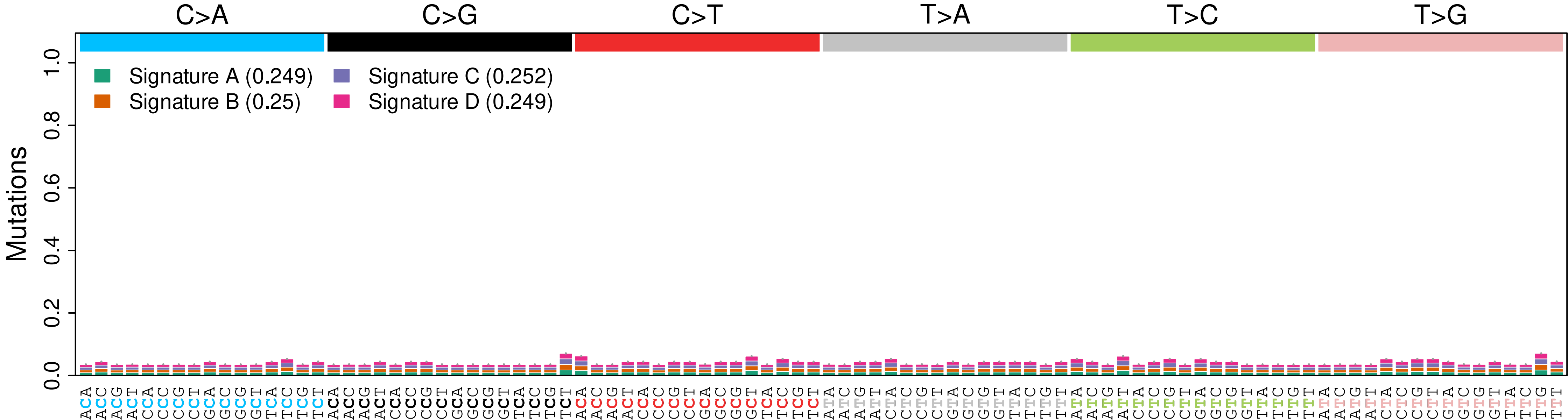
CATD338a
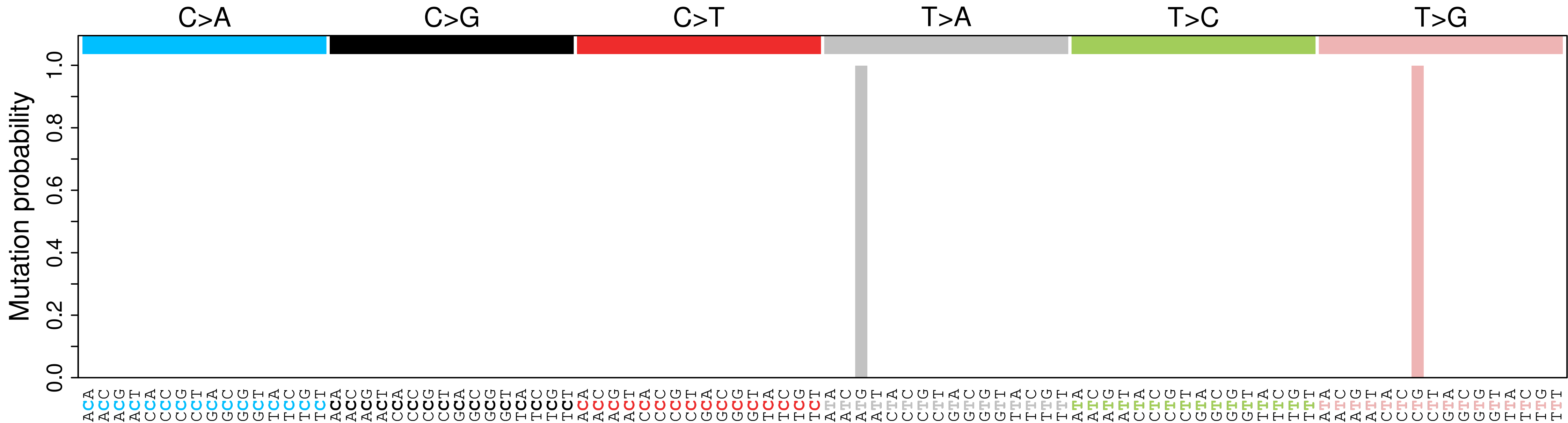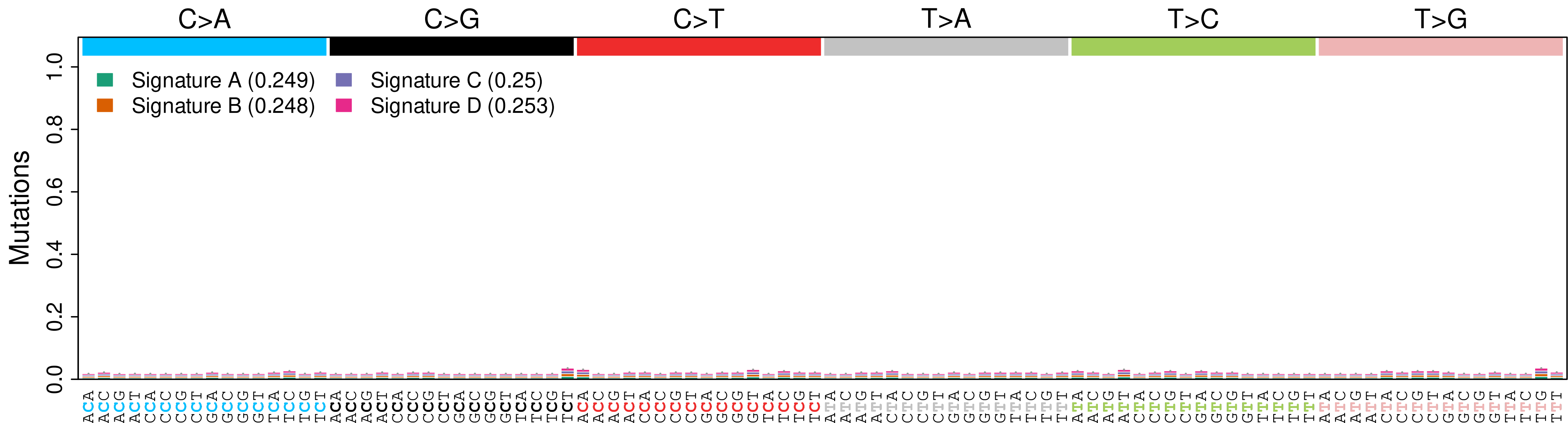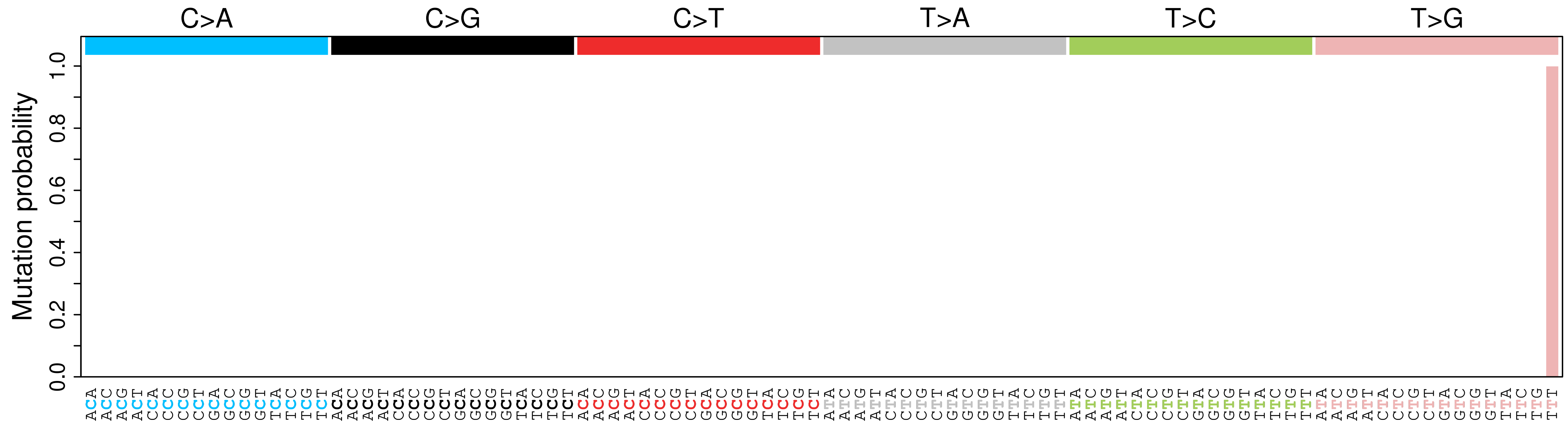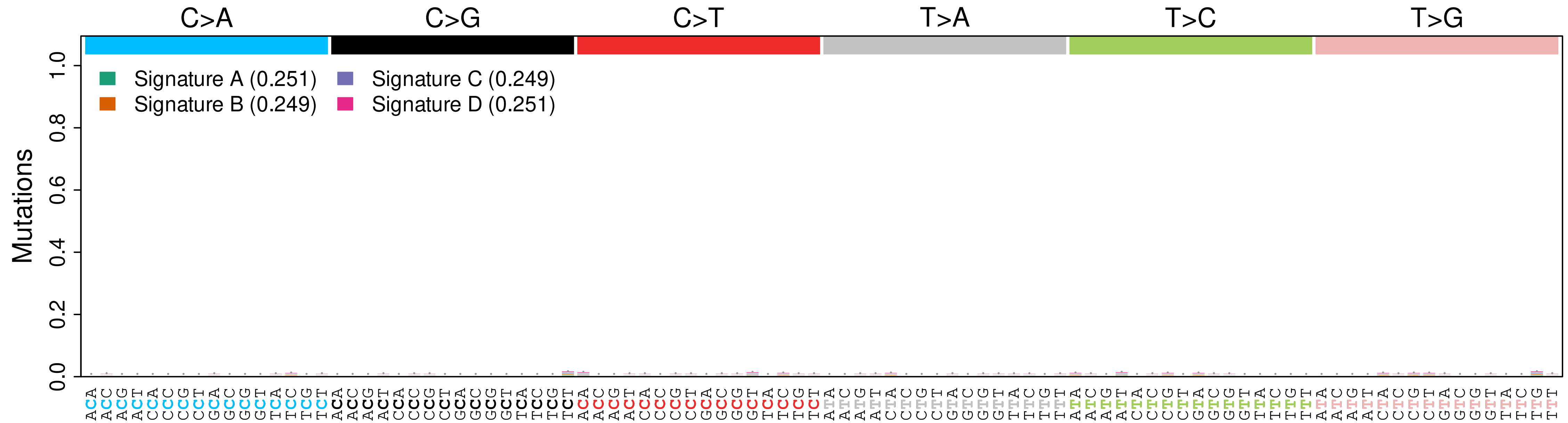
Reconstructed spectrum (cosine similarity = 0.166)

Signature A (0.249) Signature C (0.25)
Signature B (0.248) Signature D (0.253)

CATD332a

Mutation probability

C>A C>G C>T T>A T>C T>G

Reconstructed spectrum (cosine similarity = 0.108)

C>A C>G C>T T>A T>C T>G

Signature A (0.251) Signature C (0.249)
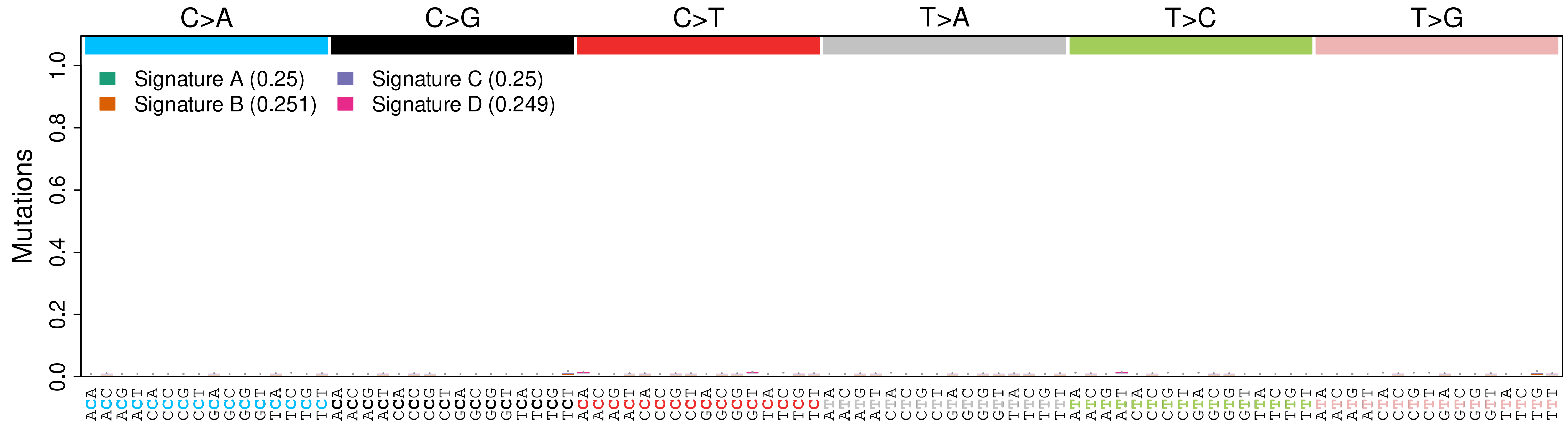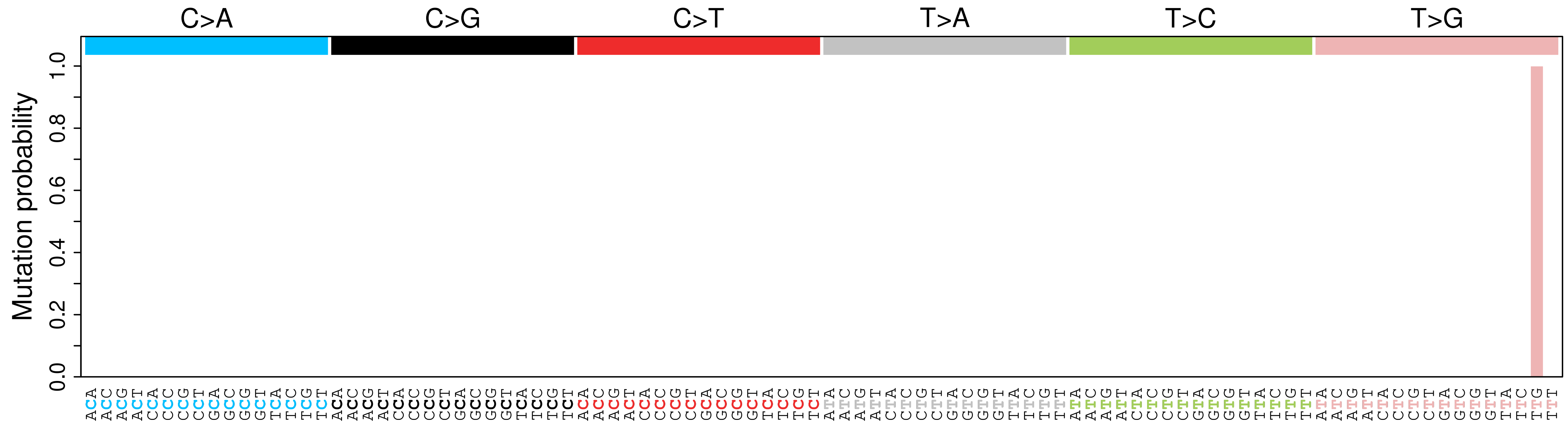Signature B (0.249) Signature D (0.251)

Mutations

CATD339a

Reconstructed spectrum (cosine similarity = 0.128)

Signature A (0.25) Signature C (0.25)
Signature B (0.251) Signature D (0.249)
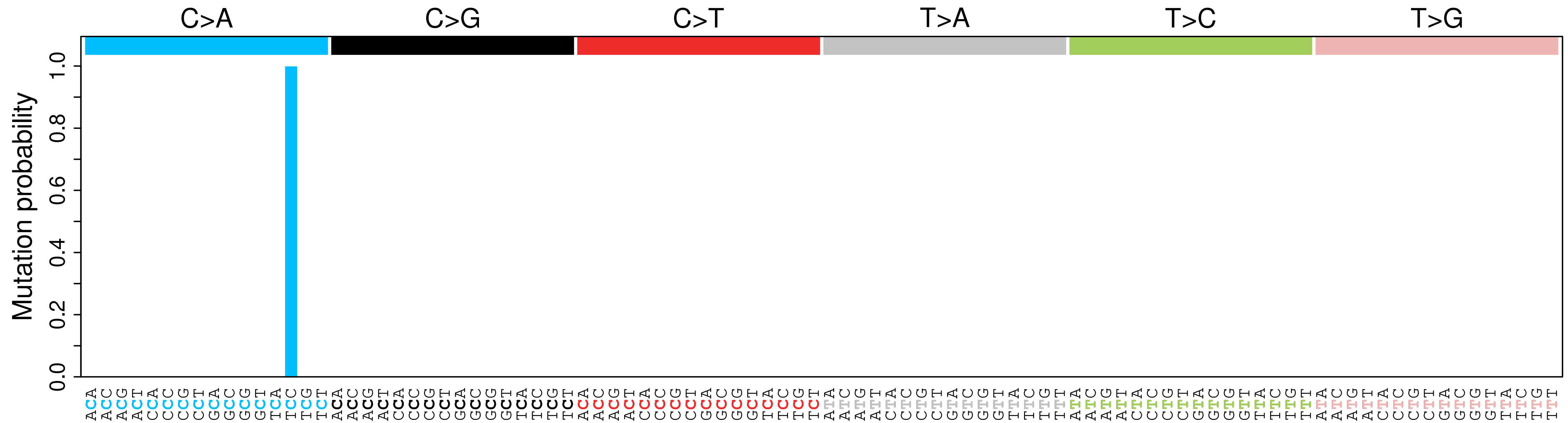
CATD0555a

Reconstructed spectrum (cosine similarity = 0.17)

Signature A (0.248)   Signature C (0.249)
Signature B (0.251)   Signature D (0.252)

CATD0551a

Reconstructed spectrum (cosine similarity = 0.107)

Signature A (0.251)   Signature C (0.251)
Signature B (0.247)   Signature D (0.251)
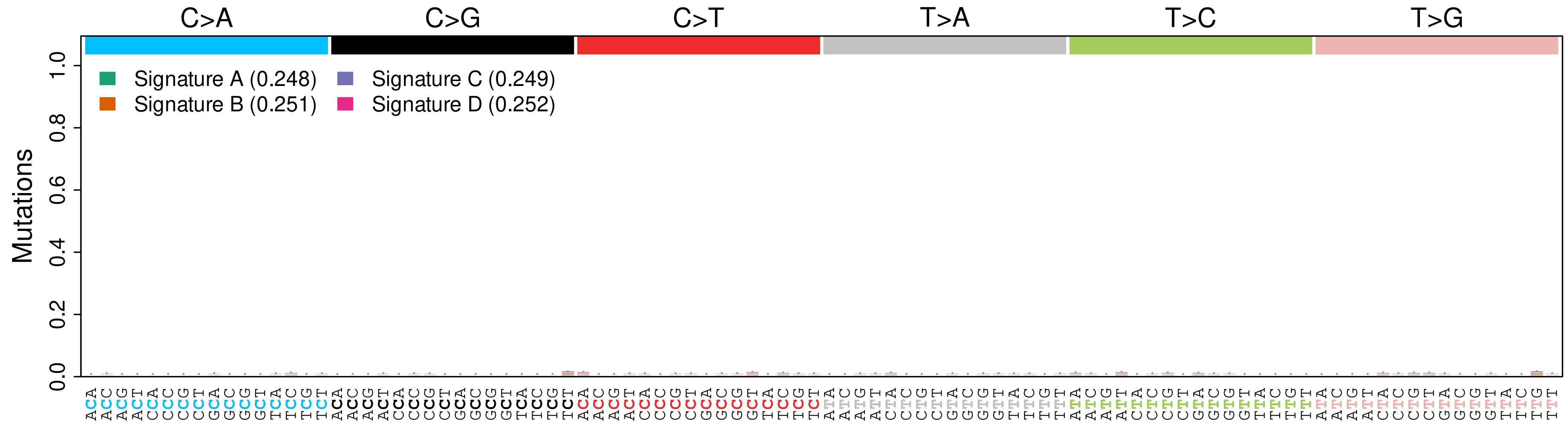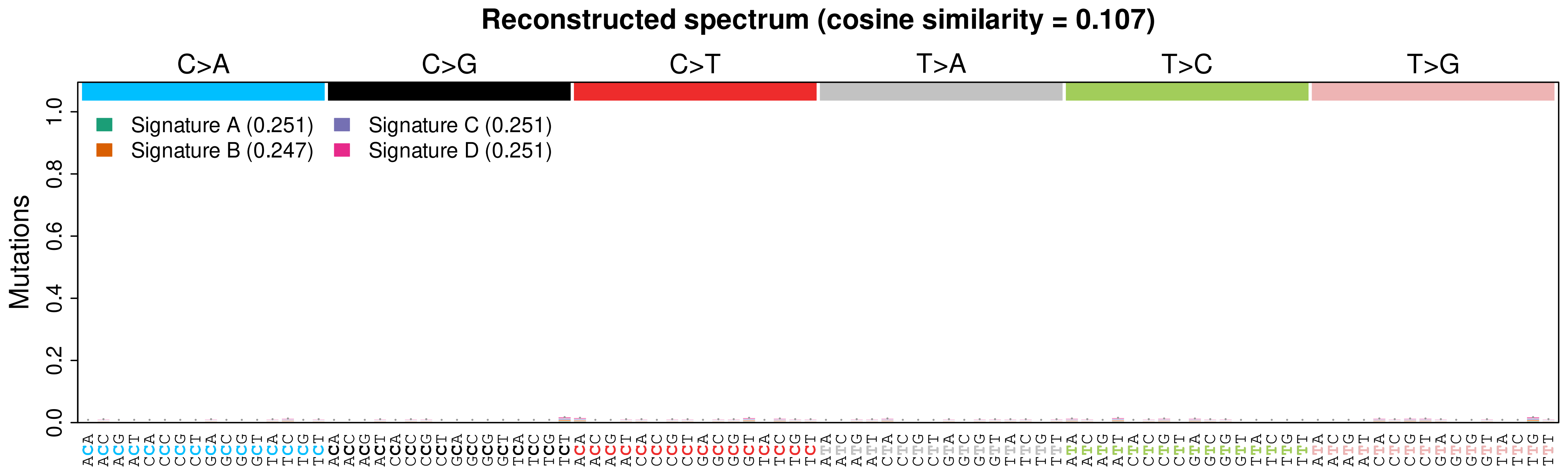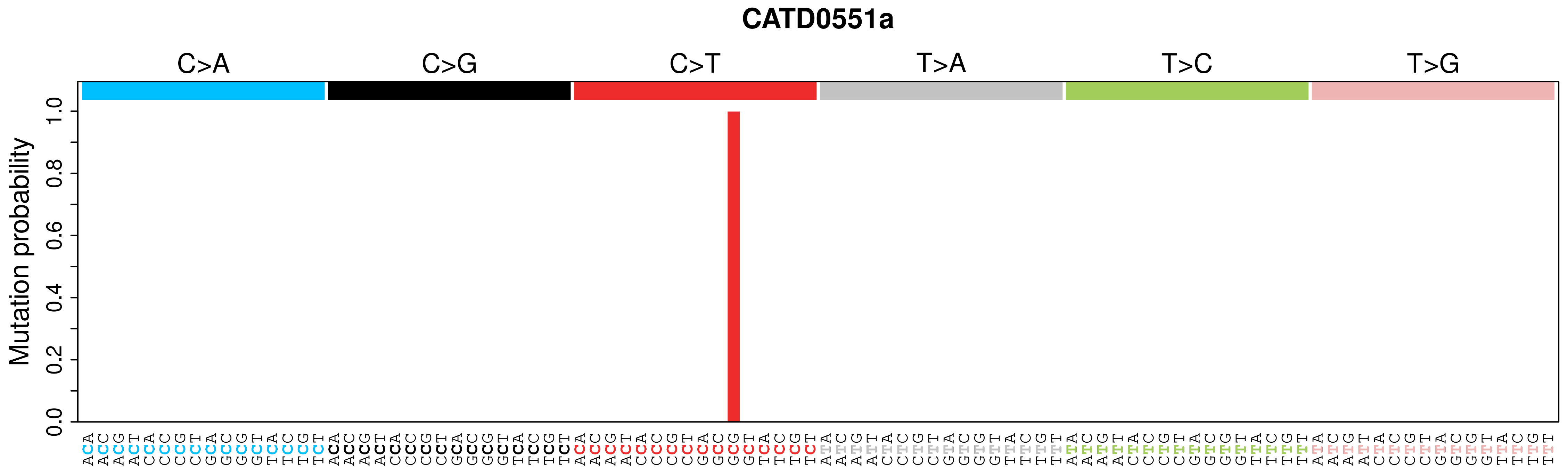
CATD345a

Reconstructed spectrum (cosine similarity = 0.322)

Signature A (0.25)
Signature B (0.251)
Signature C (0.252)
Signature D (0.247)