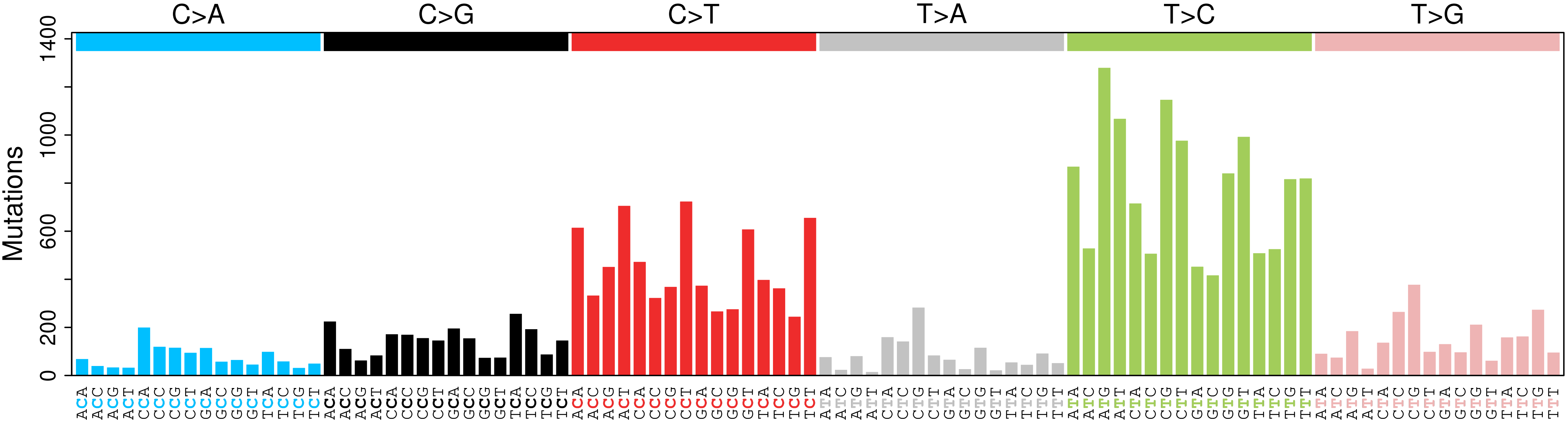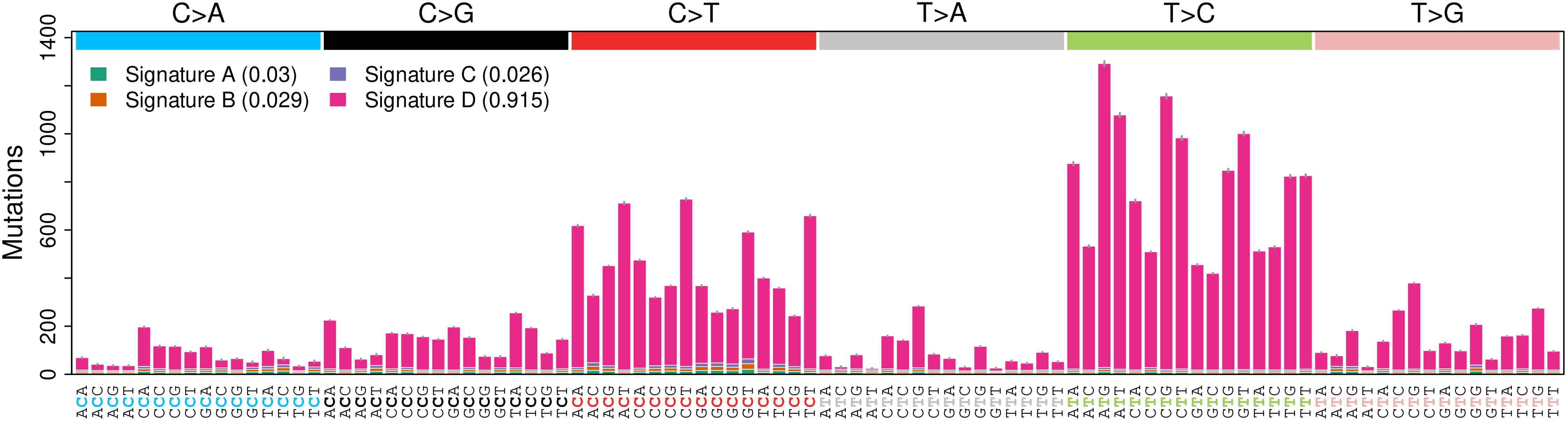**CATD309a (27,083 mutations)**
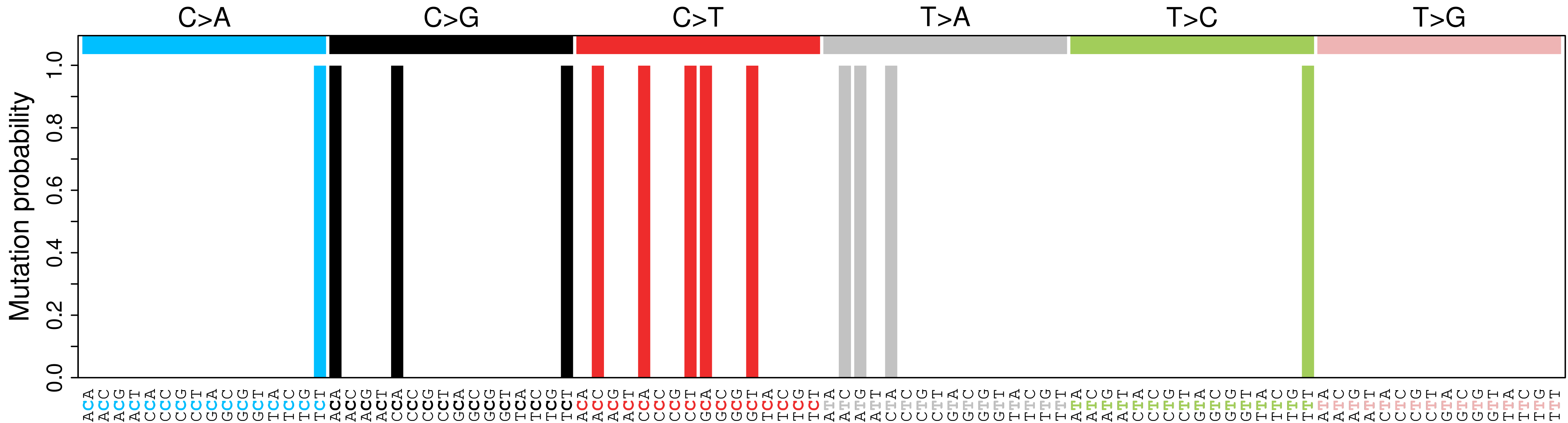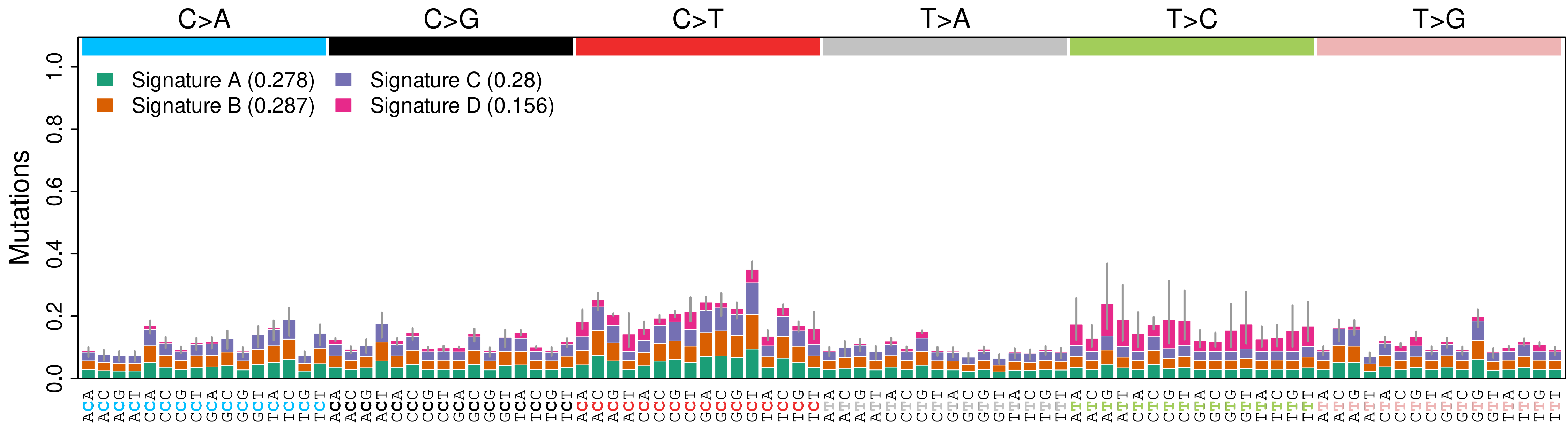
Reconstructed spectrum (cosine similarity = 1)
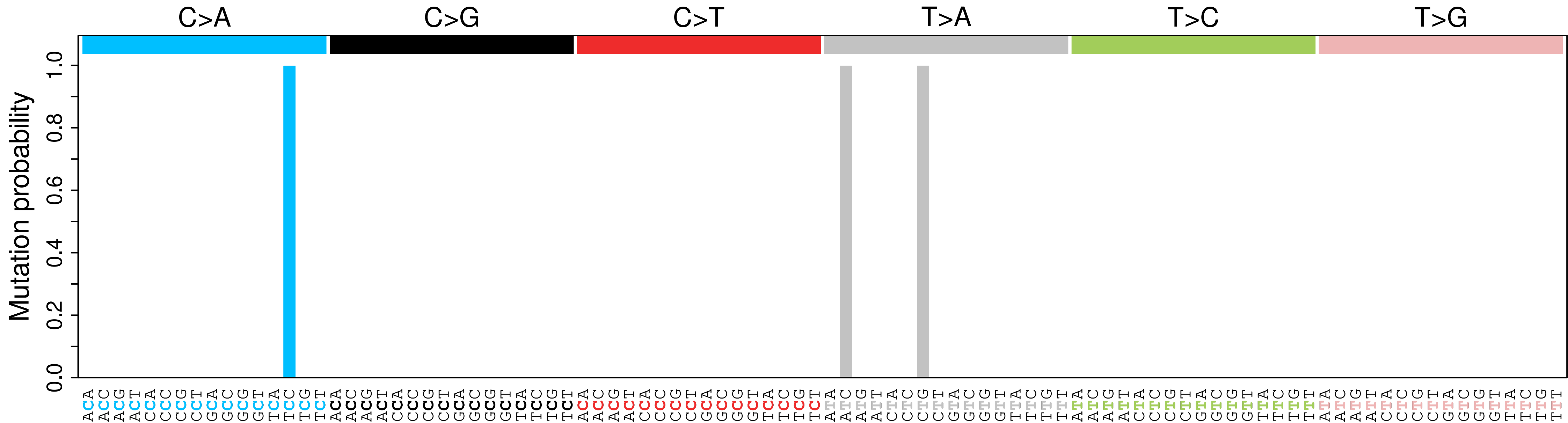
Signature A (0.03)   Signature C (0.026)
Signature B (0.029)   Signature D (0.915)
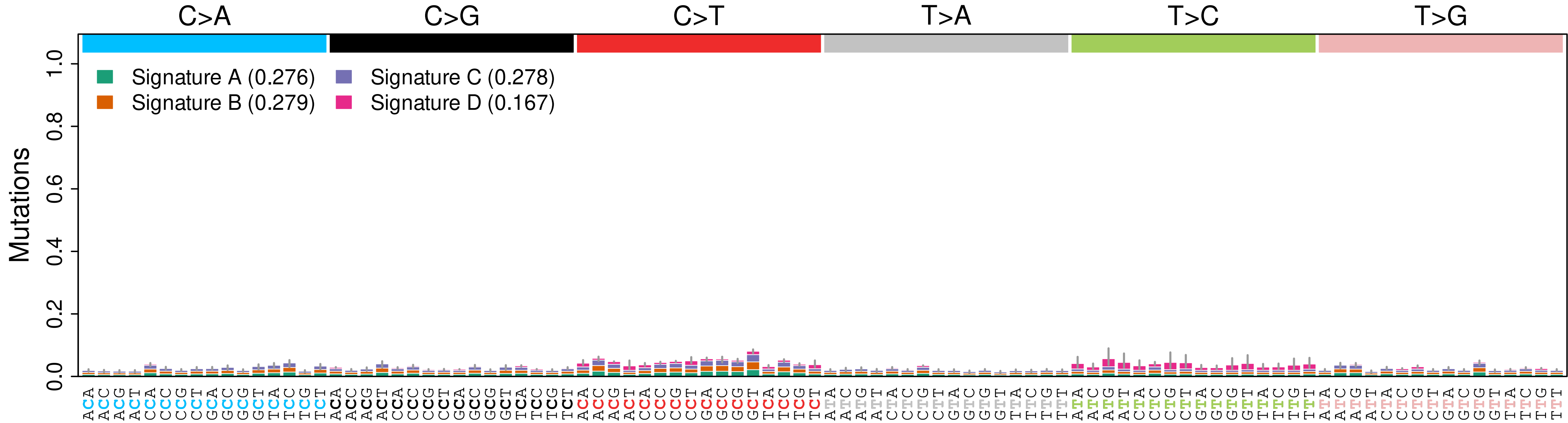
CATD319a
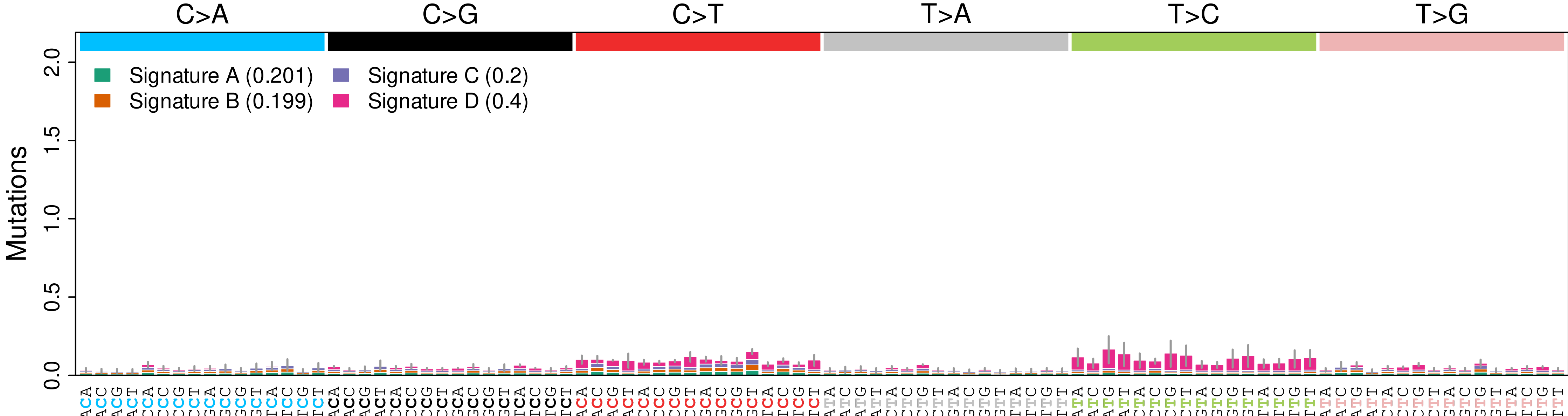
Reconstructed spectrum (cosine similarity = 0.437)

CATD310a

Reconstructed spectrum (cosine similarity = 0.179)

Signature A (0.276) Signature C (0.278)
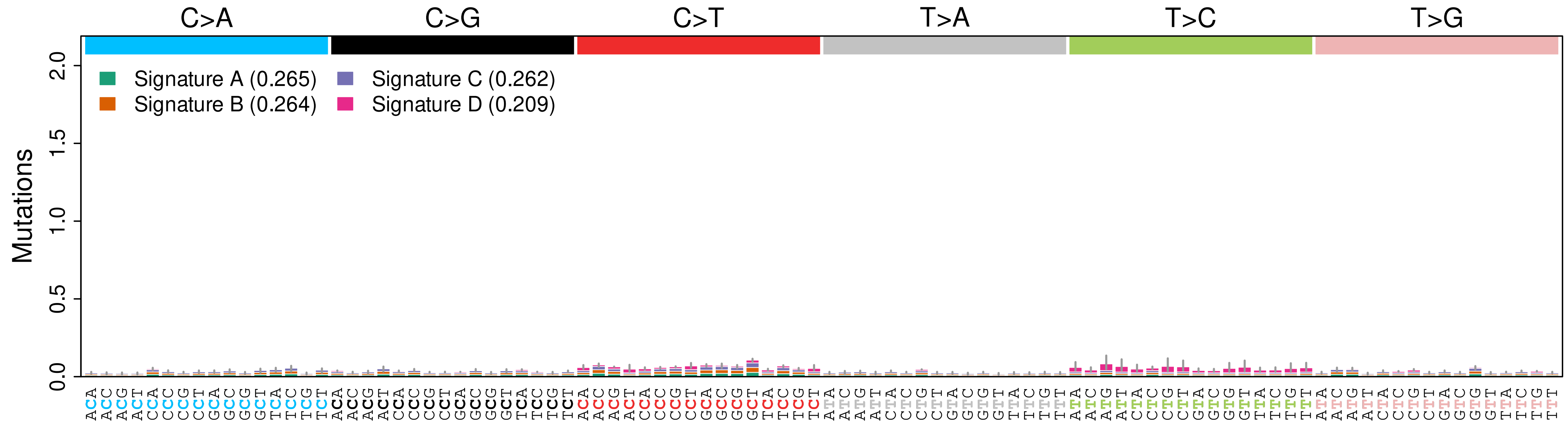Signature B (0.279) Signature D (0.167)

CATD297a (4 mutations)

Reconstructed spectrum (cosine similarity = 0.294)
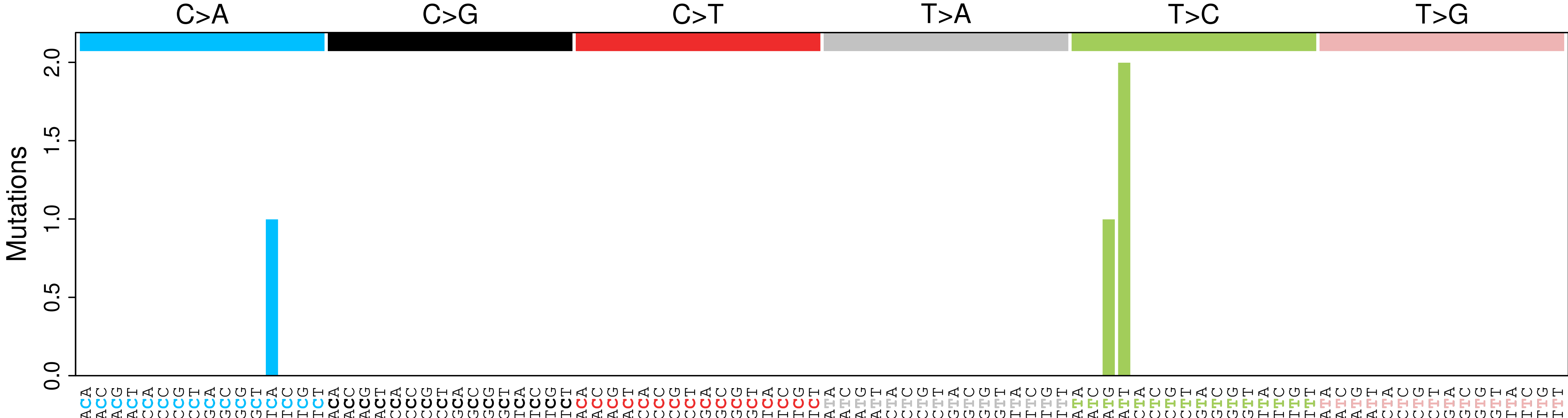
Signature A (0.201) Signature C (0.2)
Signature B (0.199) Signature D (0.4)

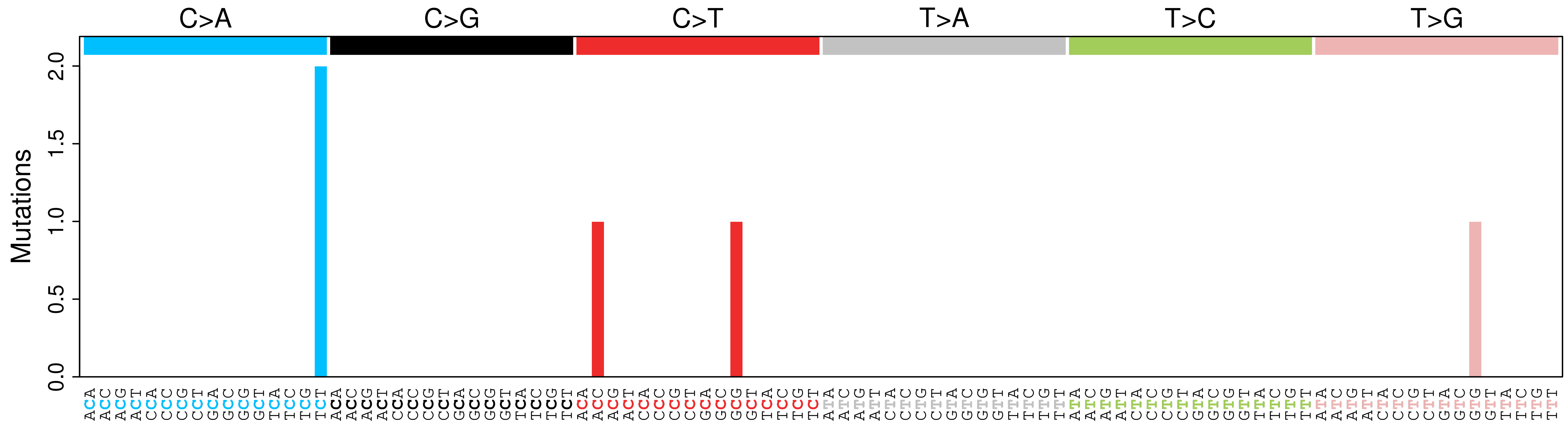CATD312a (5 mutations)

Reconstructed spectrum (cosine similarity = 0.271)

Signature A (0.265) Signature C (0.262)
Signature B (0.264) Signature D (0.209)
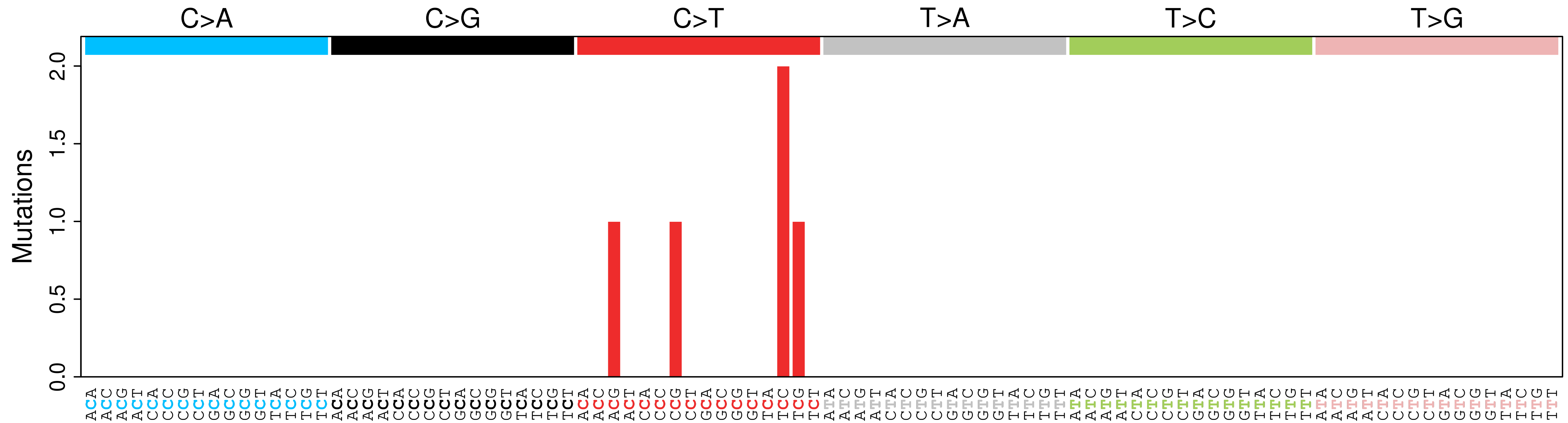
CATD323a (5 mutations)

Reconstructed spectrum (cosine similarity = 0.262)

Signature A (0.286) Signature C (0.286)
Signature B (0.288) Signature D (0.14)
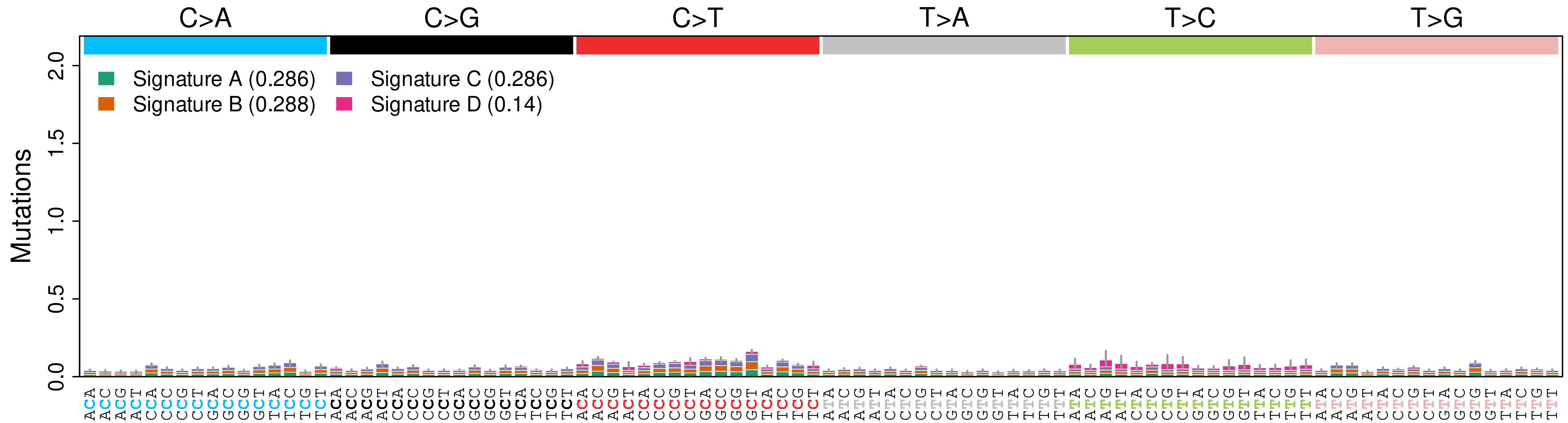
CATD314a (6 mutations)

Reconstructed spectrum (cosine similarity = 0.327)

Signature A (0.207) Signature C (0.207)
Signature B (0.21)   Signature D (0.376)
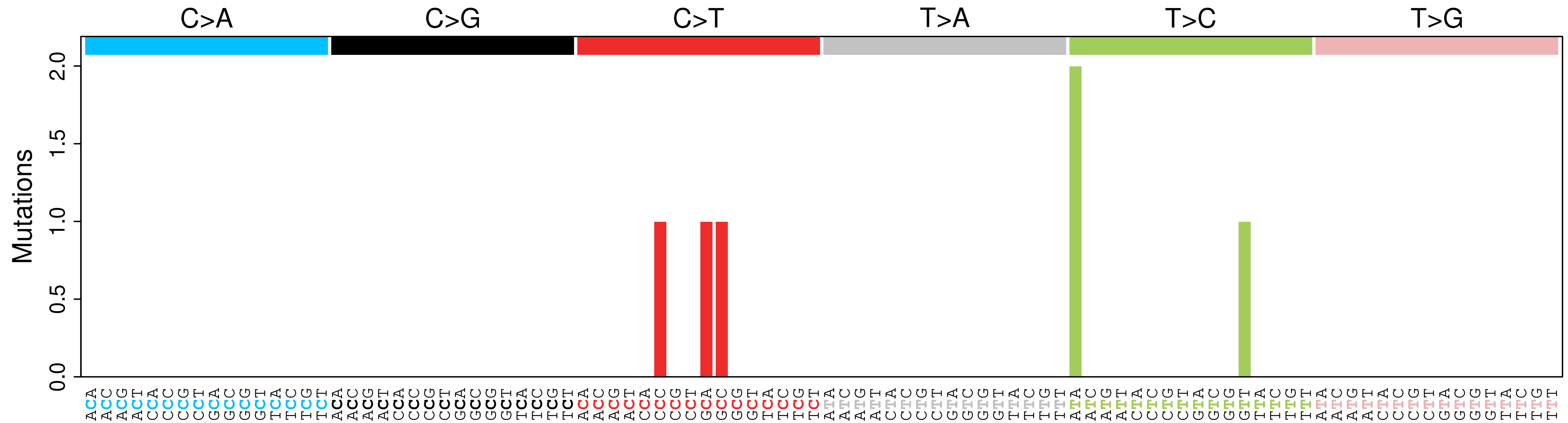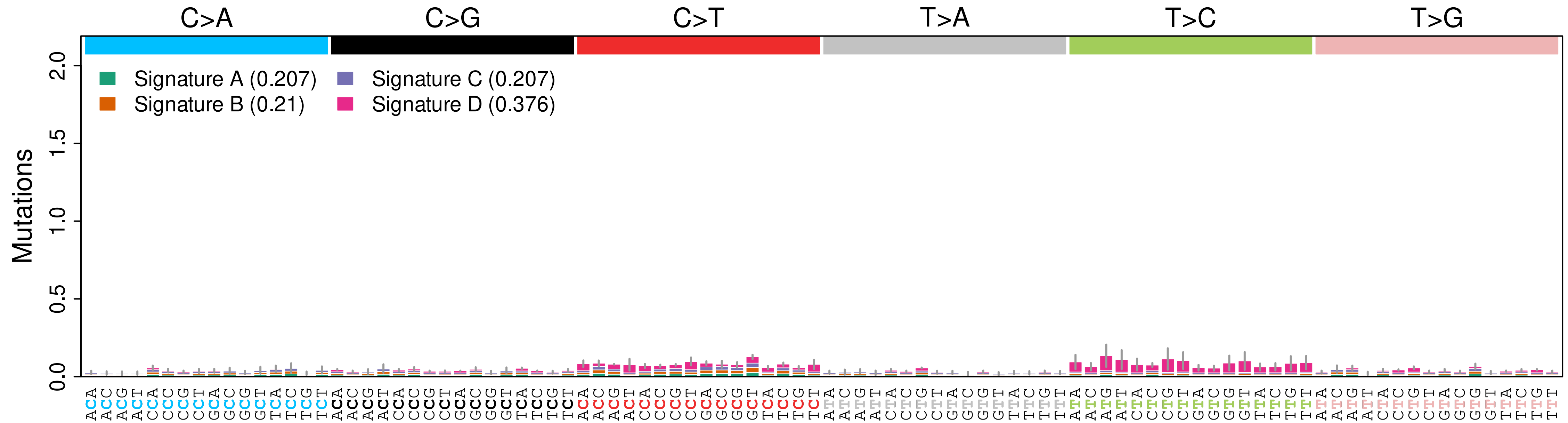
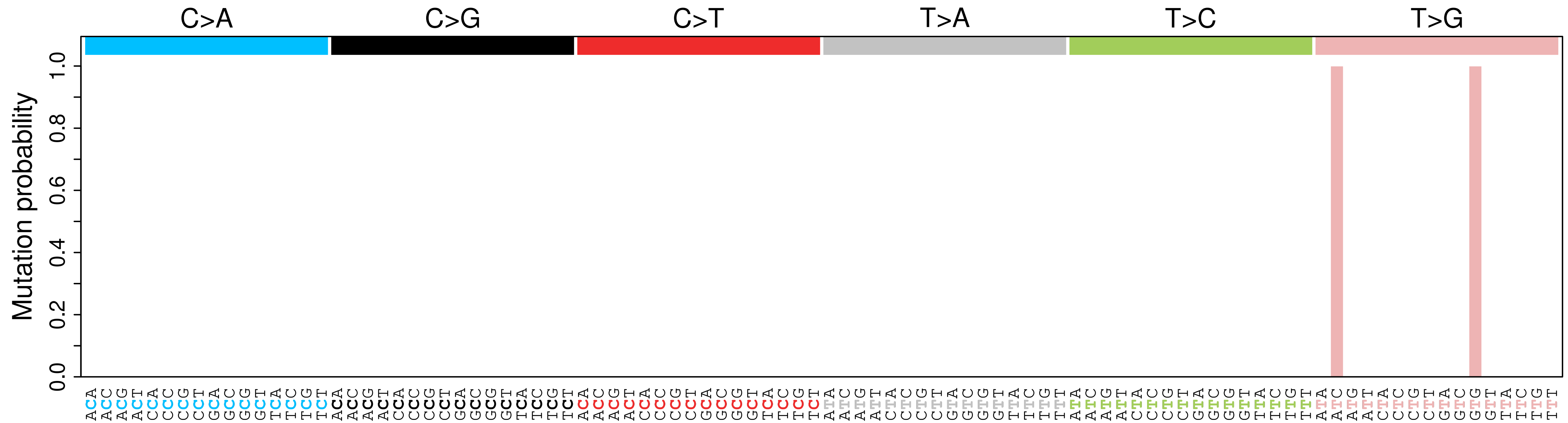**CATD329a (35 mutations)**

Reconstructed spectrum (cosine similarity = 0.547)

Signature A (0.25) Signature C (0.311)
Signature B (0.381) Signature D (0.058)
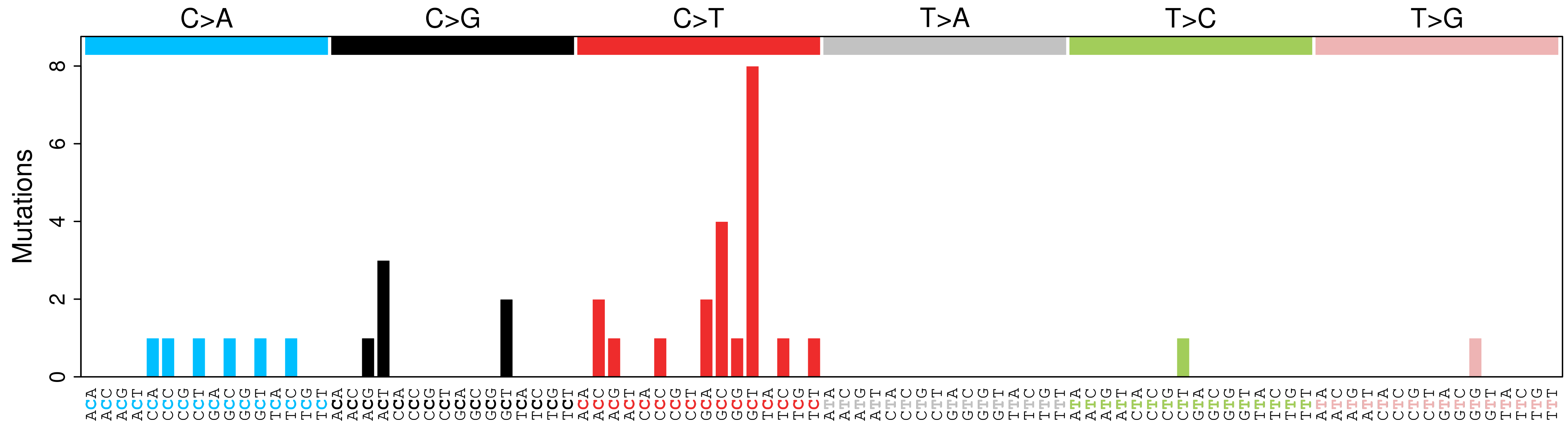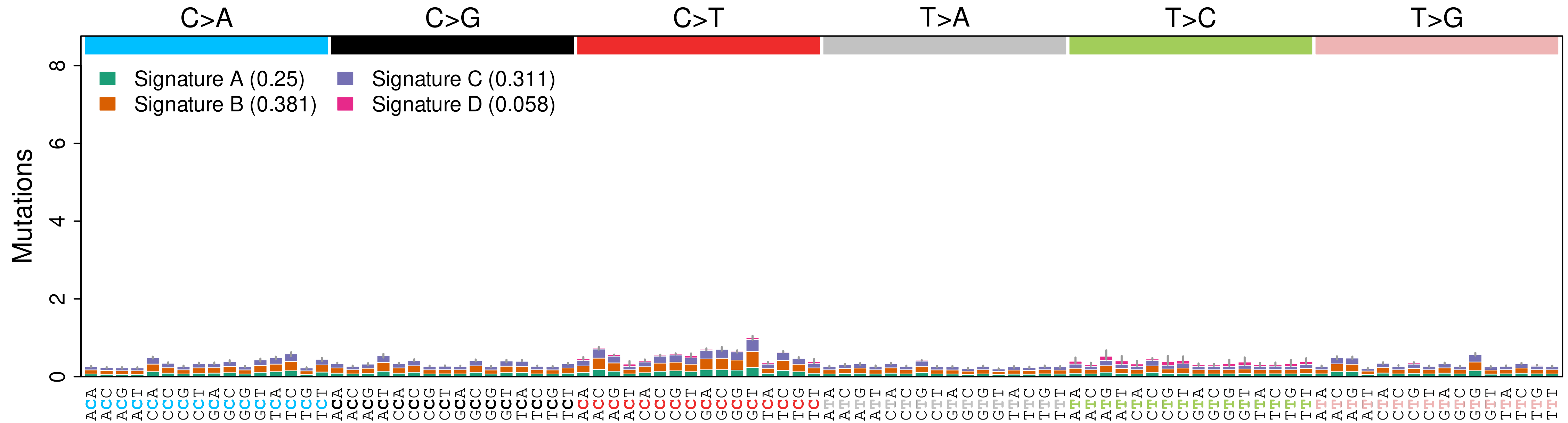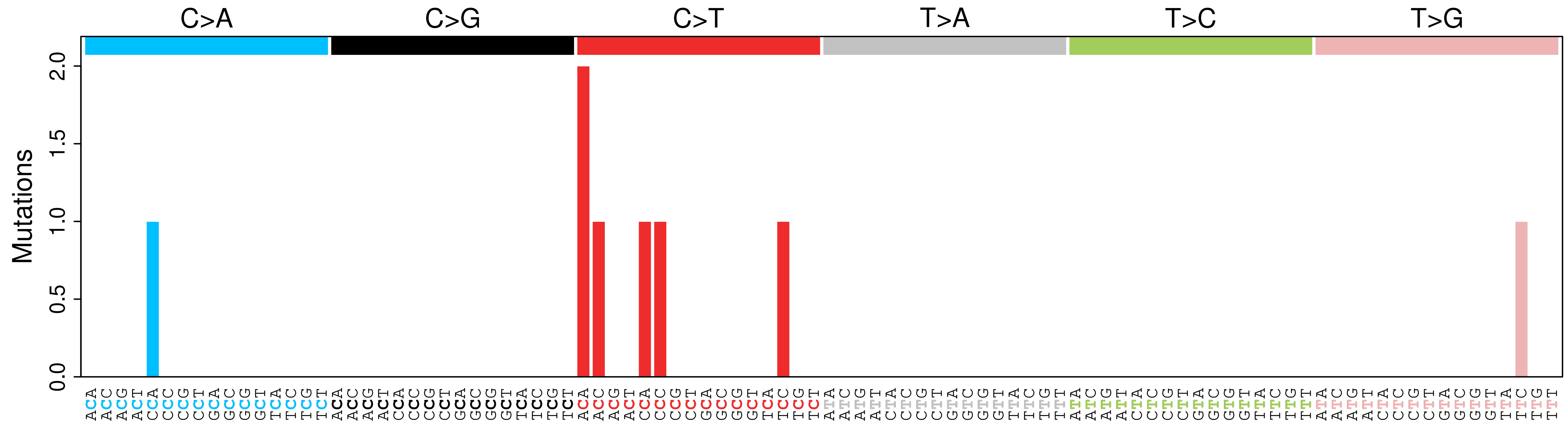
CATD311a

Reconstructed spectrum (cosine similarity = 0.174)

Signature A (0.272)   Signature C (0.27)
Signature B (0.27)   Signature D (0.189)

CATD306a (4 mutations)

Reconstructed spectrum (cosine similarity = 0.207)

Signature A (0.278) Signature C (0.278)
Signature B (0.273) Signature D (0.172)

CATD320a (8 mutations)

Reconstructed spectrum (cosine similarity = 0.327)

Signature A (0.253) Signature C (0.254)
Signature B (0.253) Signature D (0.24)
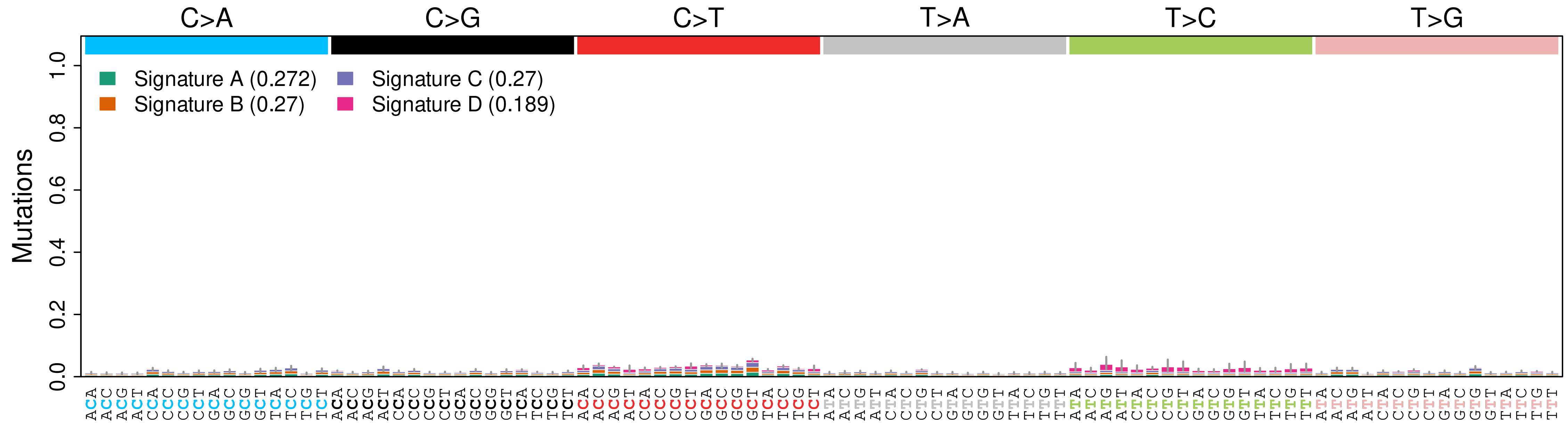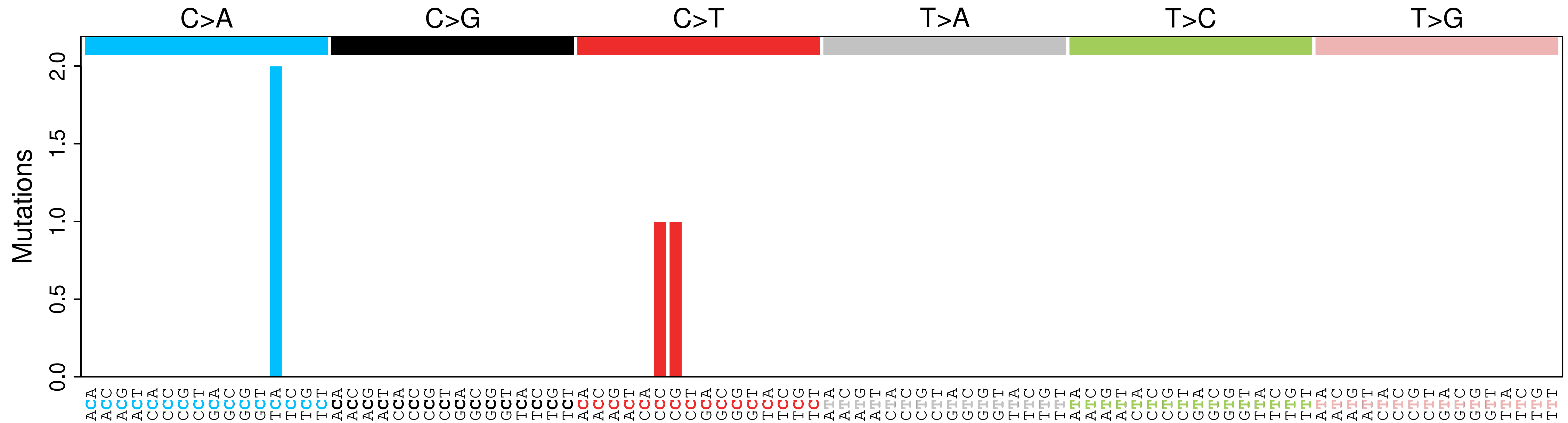
CATD300a (8 mutations)

Reconstructed spectrum (cosine similarity = 0.282)

Signature A (0.291)   Signature C (0.304)
Signature B (0.298)   Signature D (0.107)
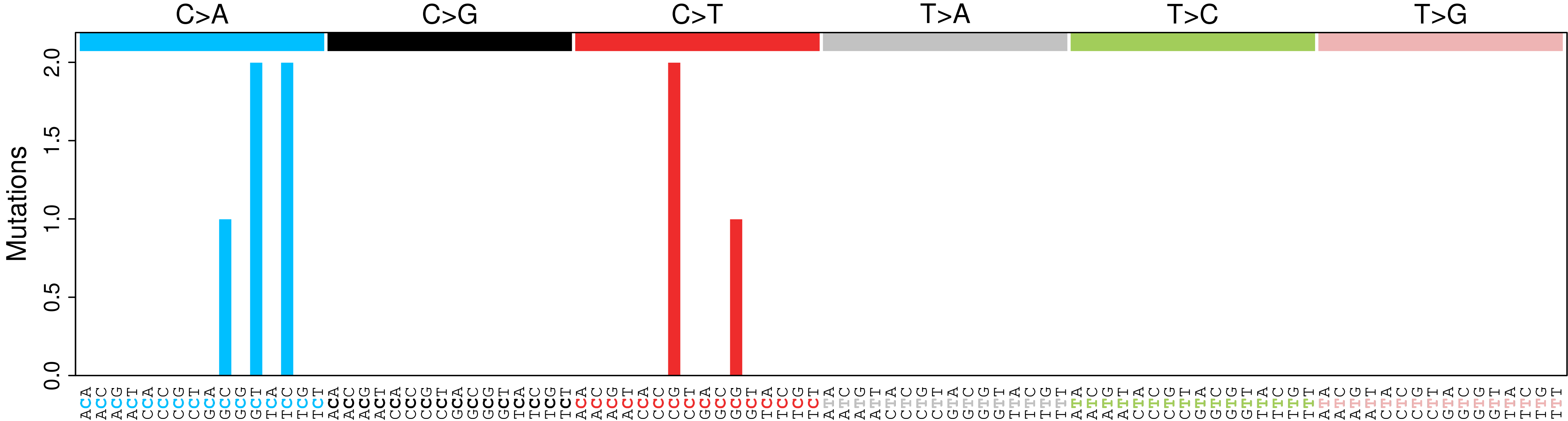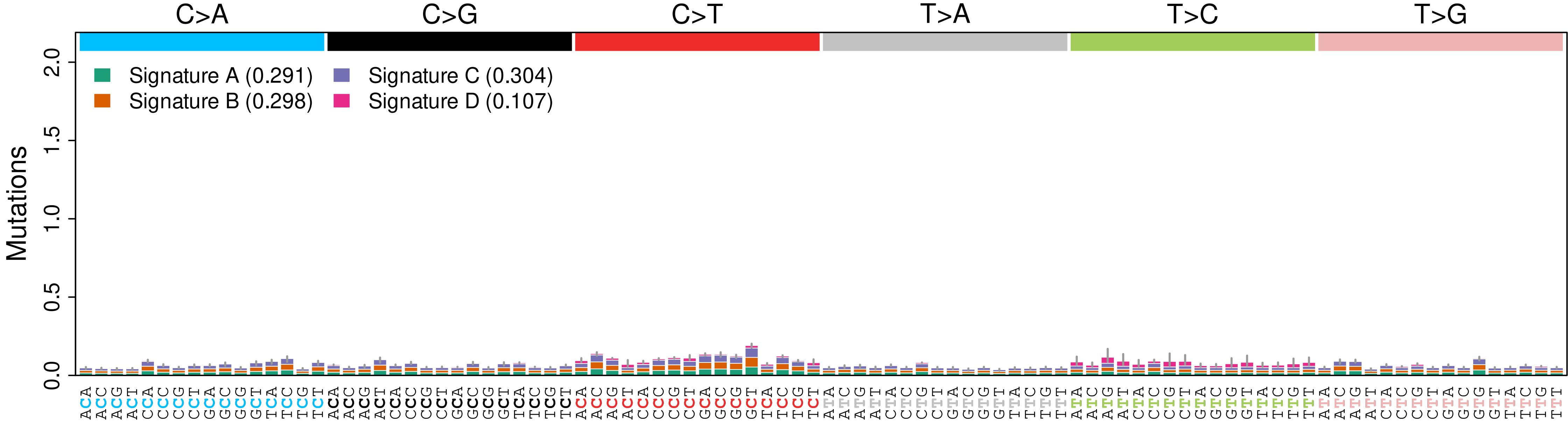
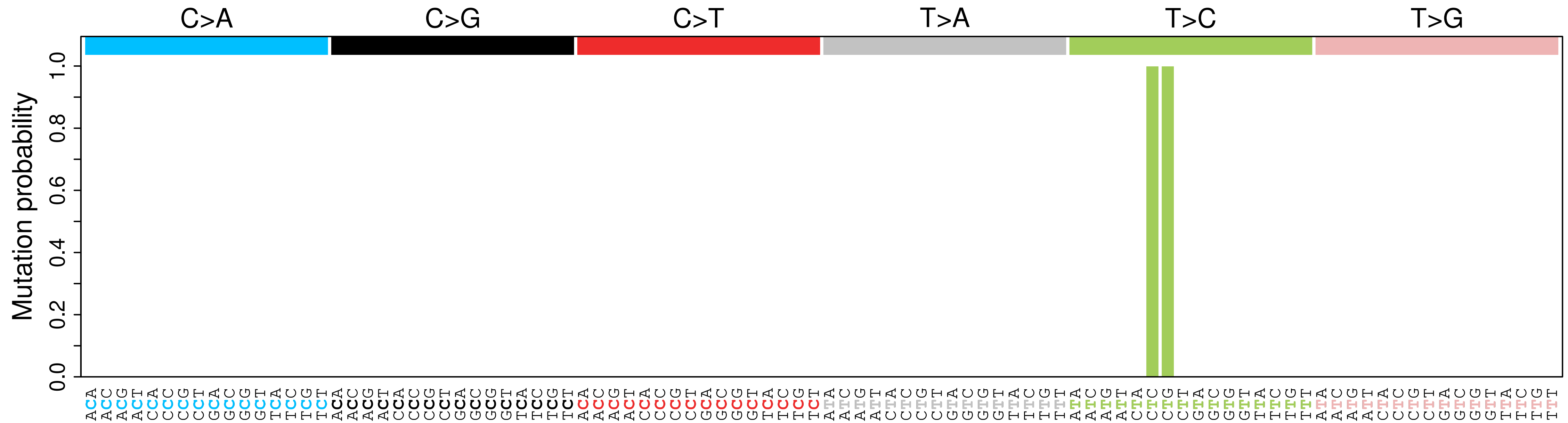**CATD328a (8 mutations)**

Reconstructed spectrum (cosine similarity = 0.309)

Signature A (0.269) Signature C (0.263)
Signature B (0.261) Signature D (0.208)
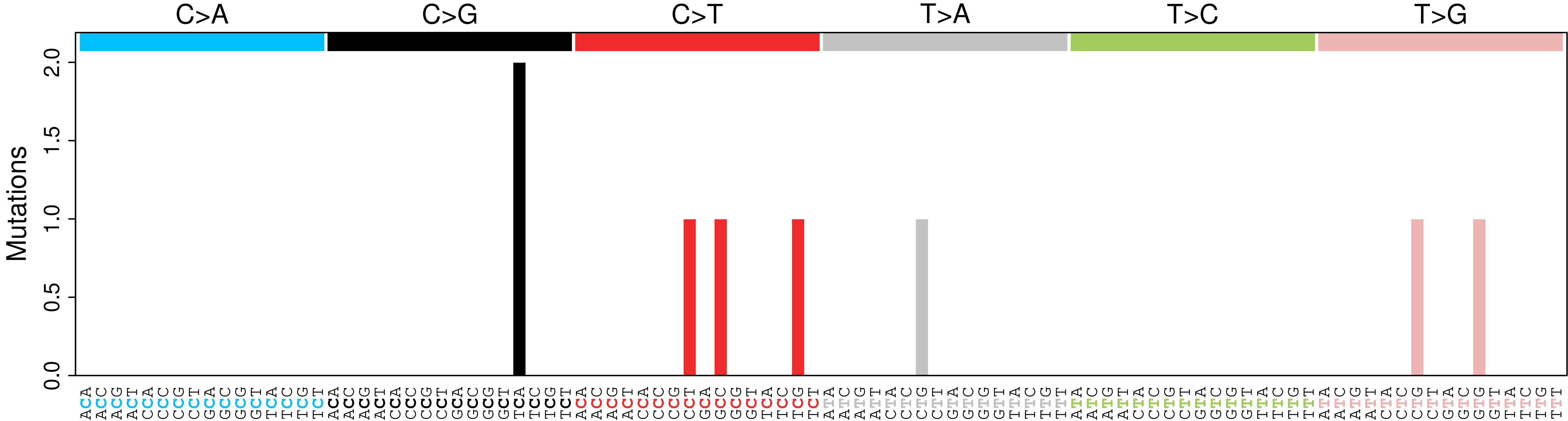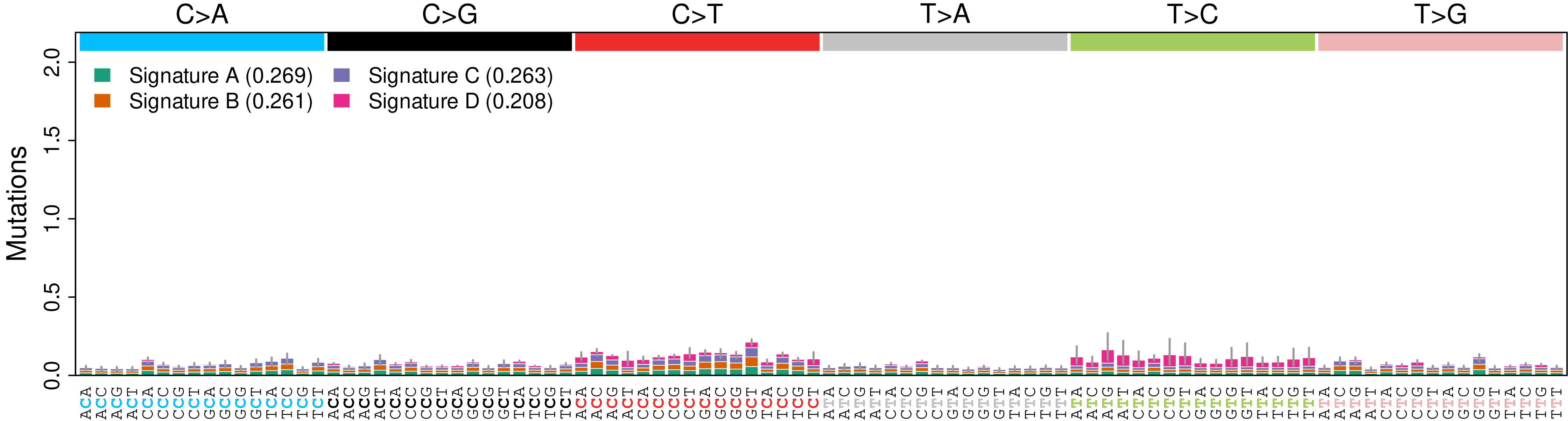
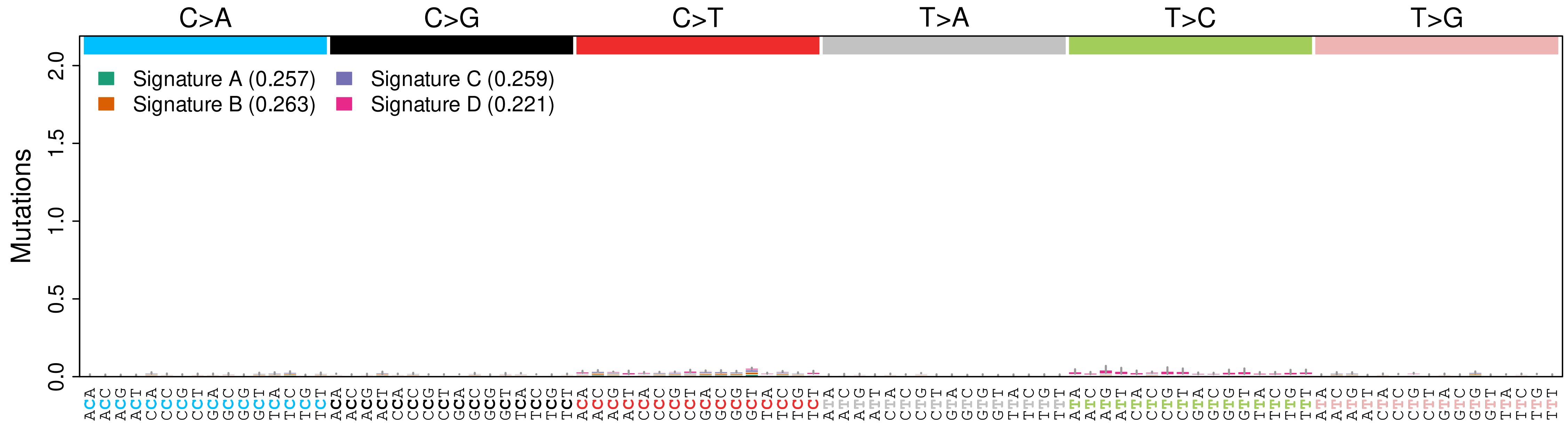**CATD0674a**

Reconstructed spectrum (cosine similarity = 0.227)

Signature A (0.218) Signature C (0.217)
Signature B (0.216) Signature D (0.35)
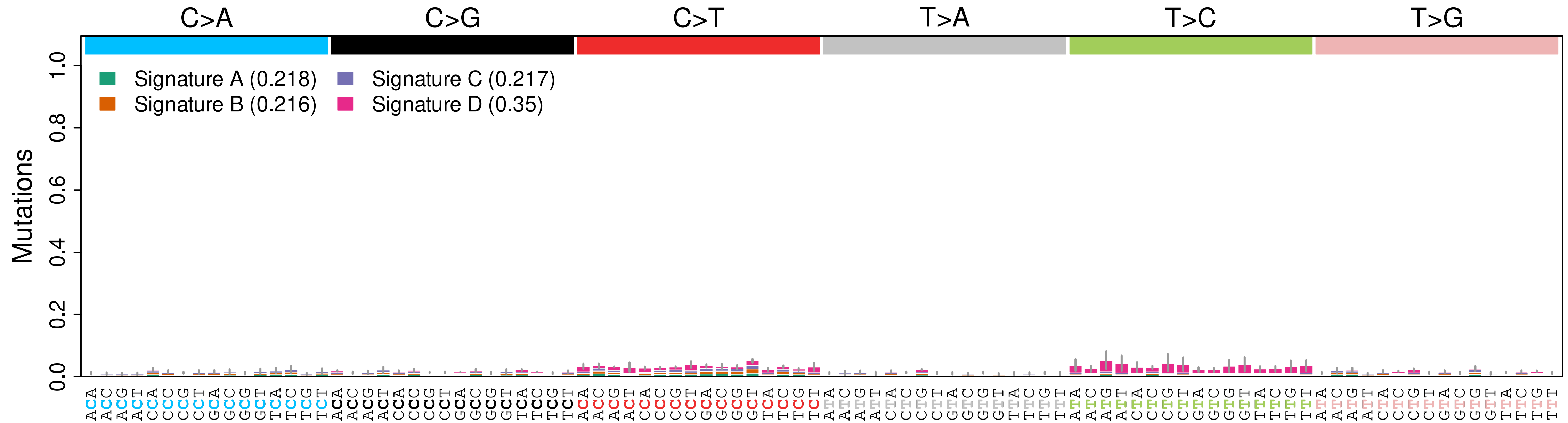
CATD318a (2 mutations)

Reconstructed spectrum (cosine similarity = 0.168)

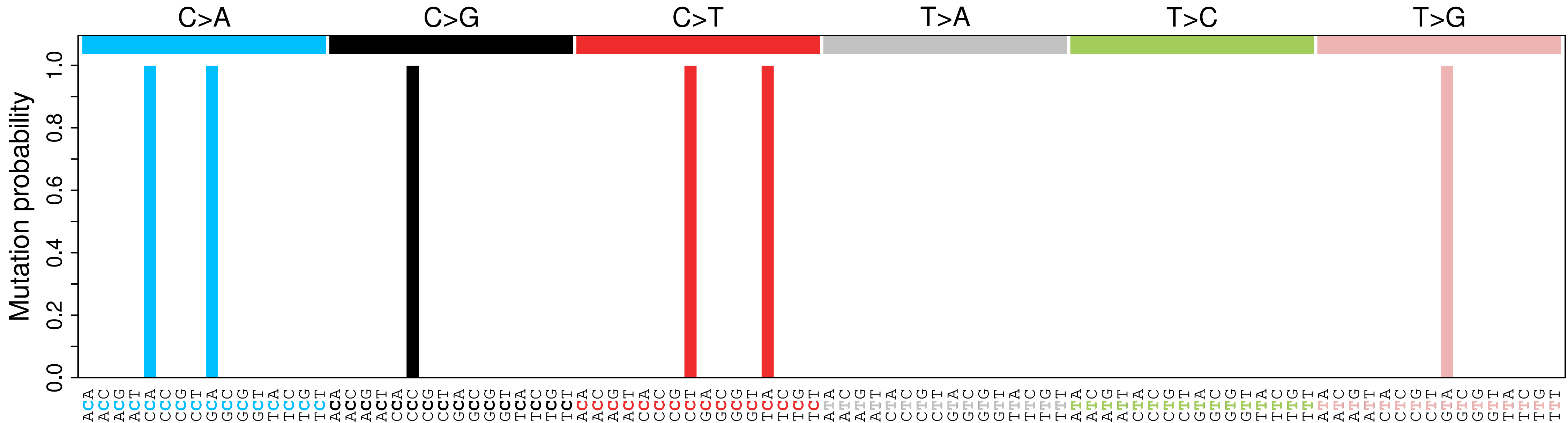Signature A (0.257)　Signature C (0.259)
Signature B (0.263)　Signature D (0.221)
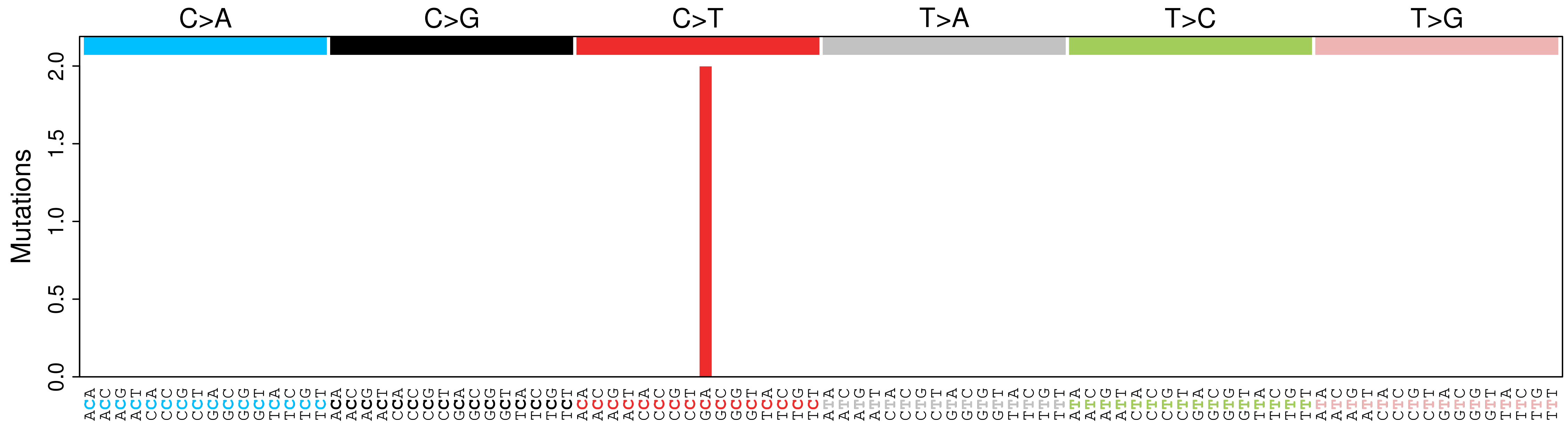
CATD301a (6 mutations)

Reconstructed spectrum (cosine similarity = 0.28)

Signature A (0.246) Signature C (0.241)
Signature B (0.237) Signature D (0.277)
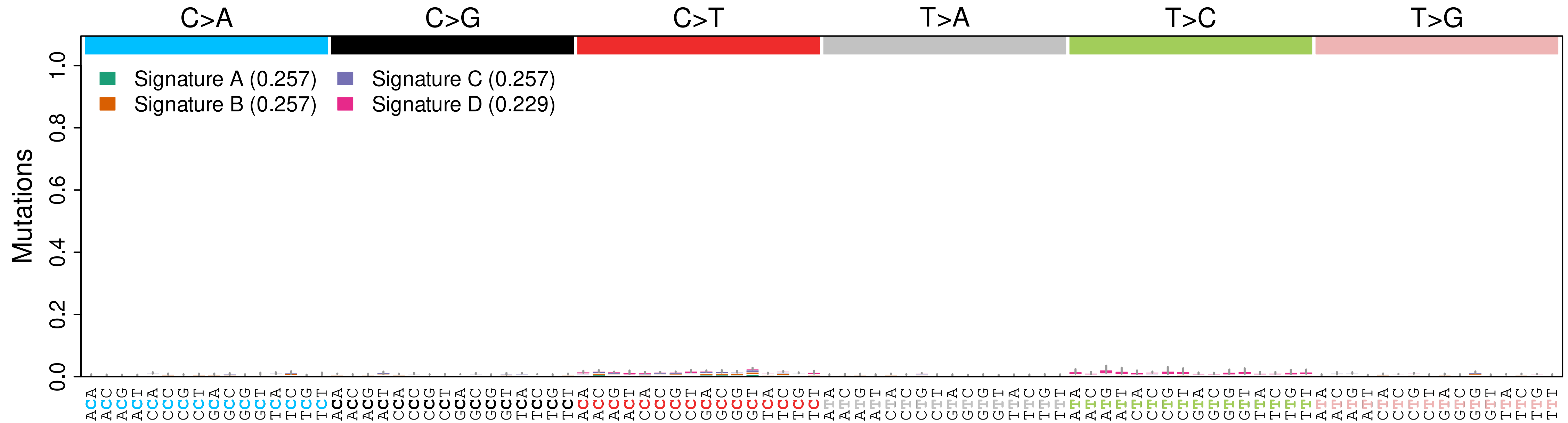
CATD308a
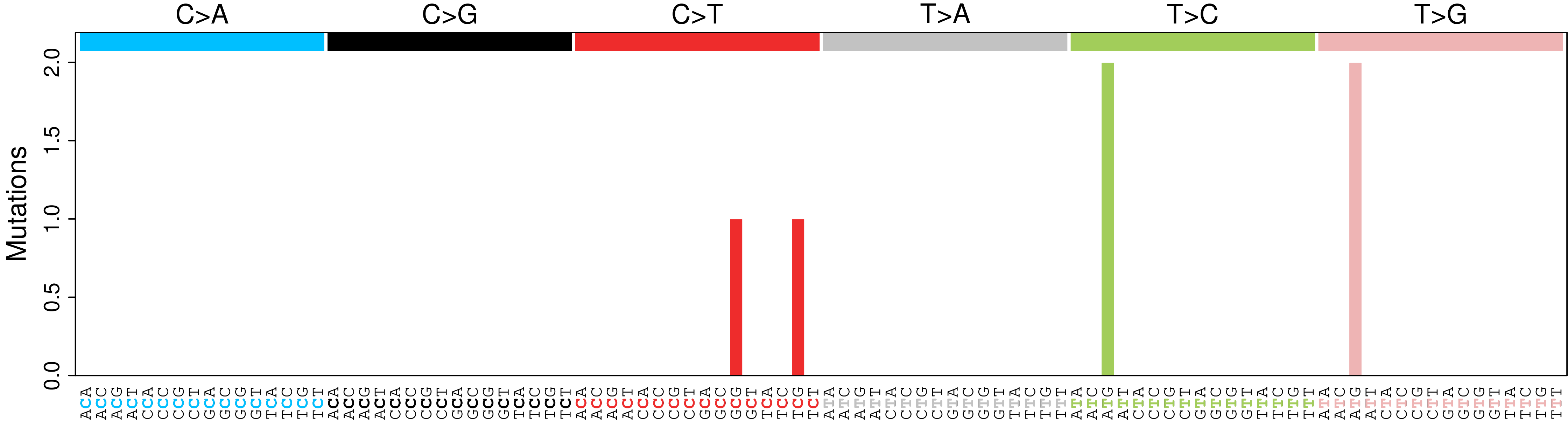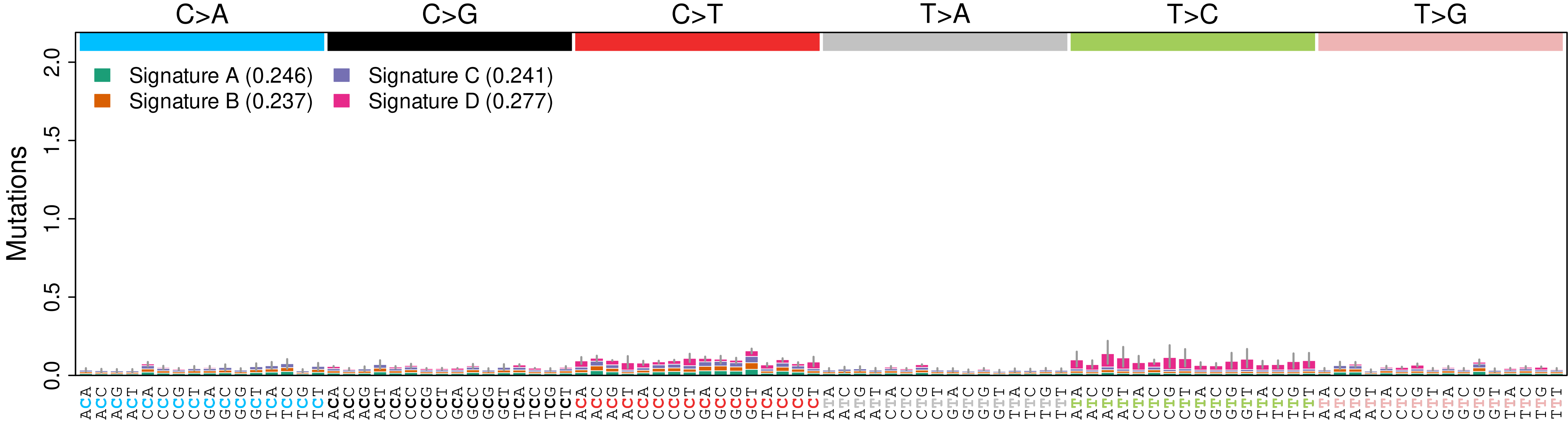
CATD296a

Reconstructed spectrum (cosine similarity = 0.257)

Signature A (0.268)   Signature C (0.267)
Signature B (0.265)   Signature D (0.2)
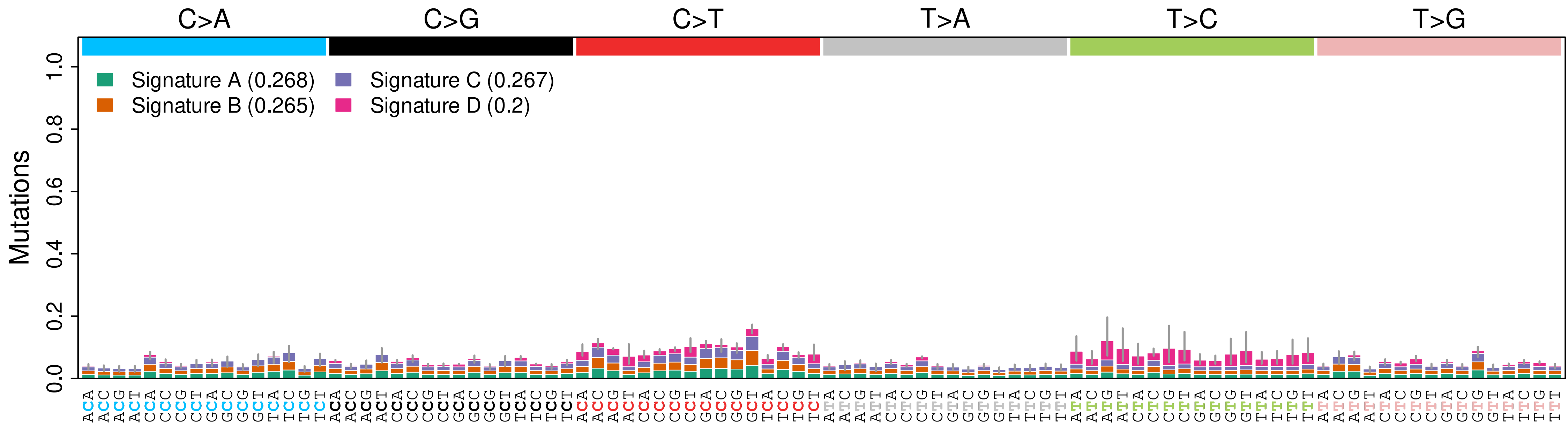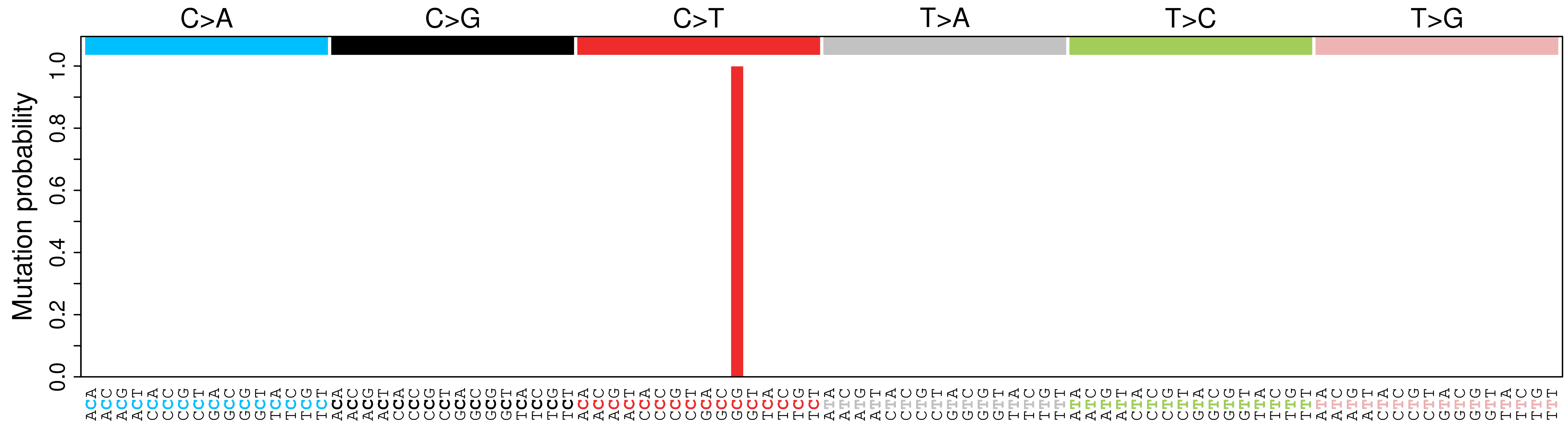
CATD0675a

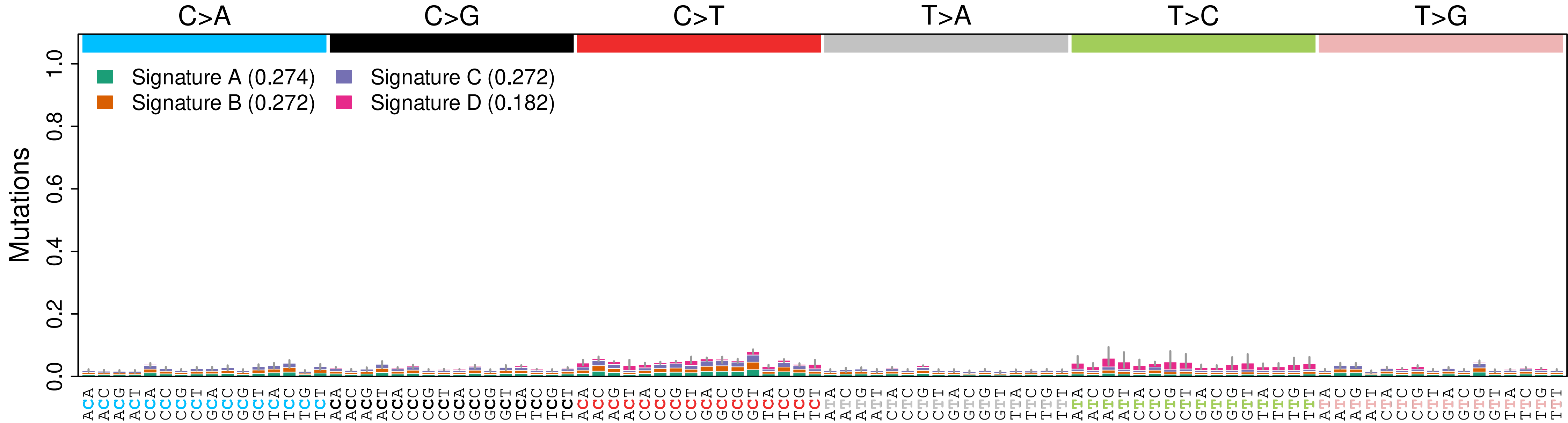**CATD0676a**

Reconstructed spectrum (cosine similarity = 0.222)
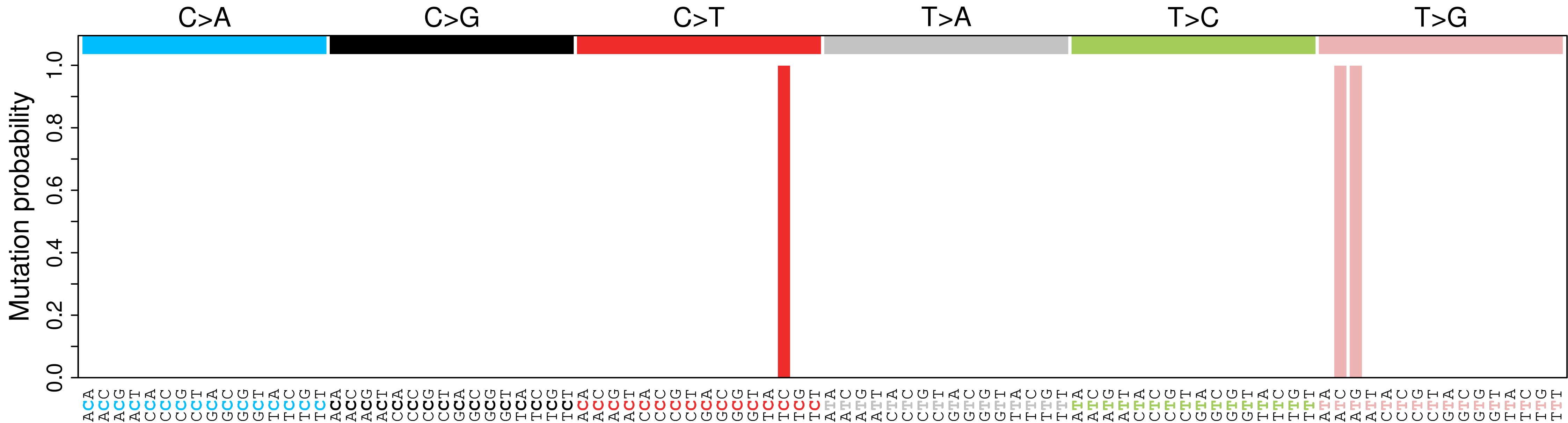
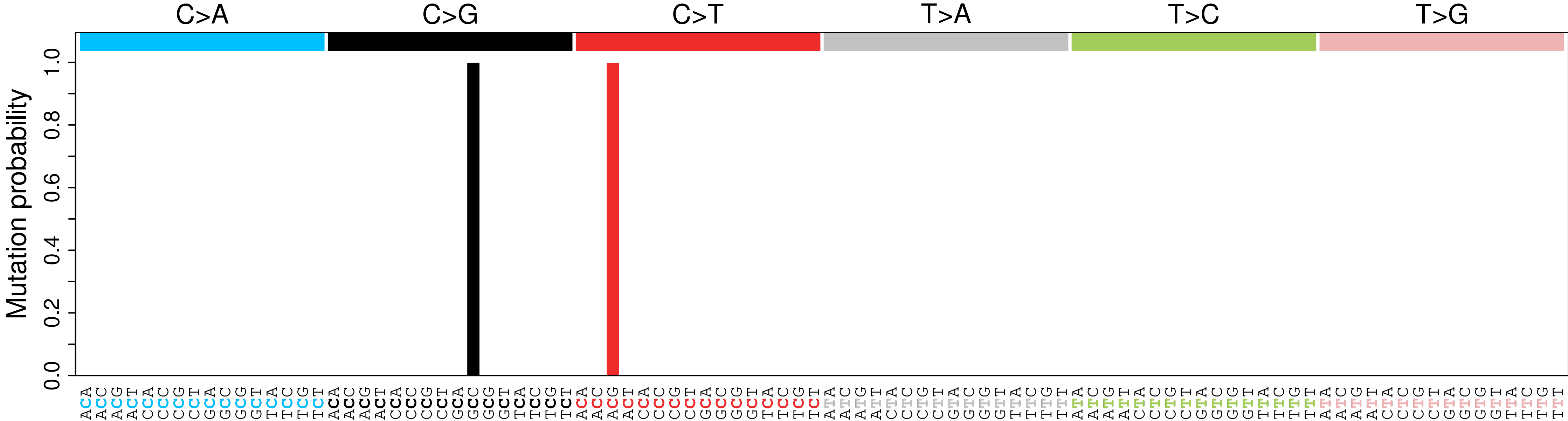Signature A (0.274)   Signature C (0.272)
Signature B (0.272)   Signature D (0.182)

CATD326a (6 mutations)
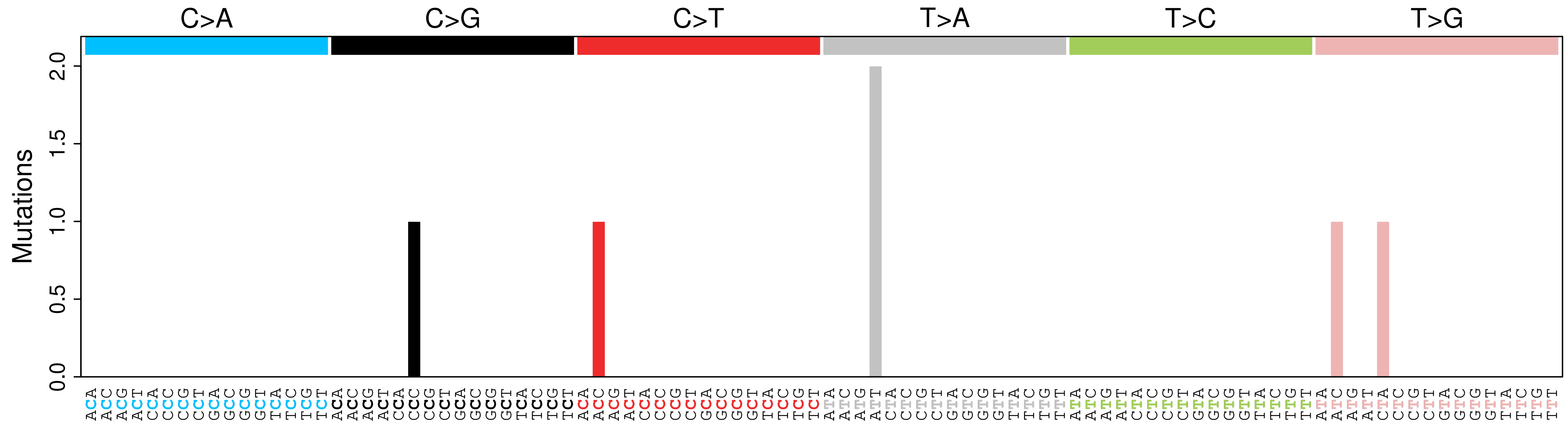
Reconstructed spectrum (cosine similarity = 0.219)

Signature A (0.289)
Signature C (0.295)
Signature B (0.293)
Signature D (0.123)
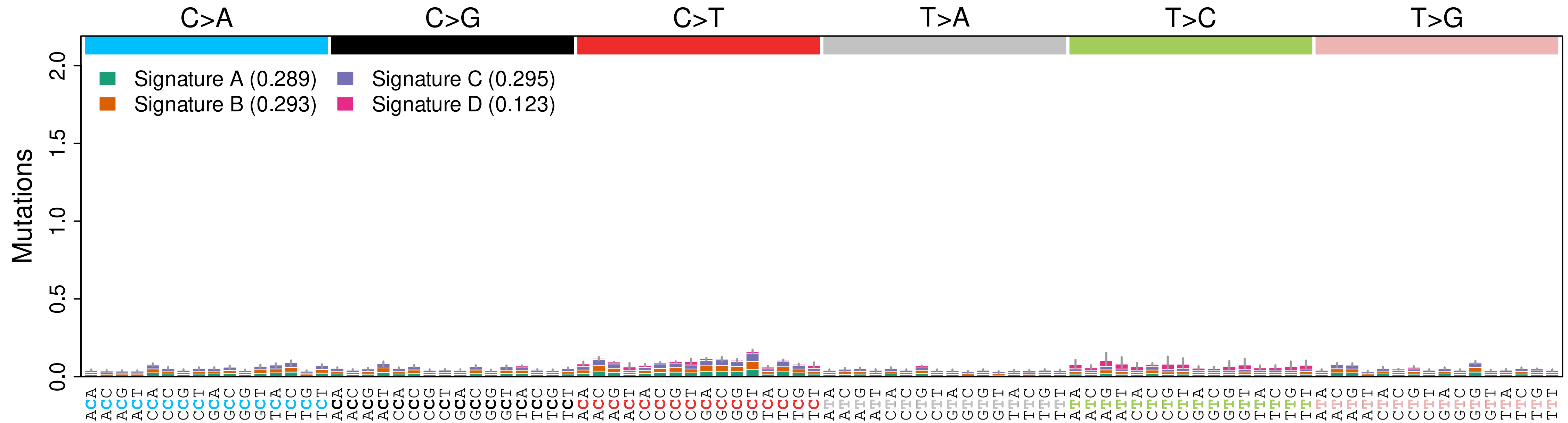
CATD0677a
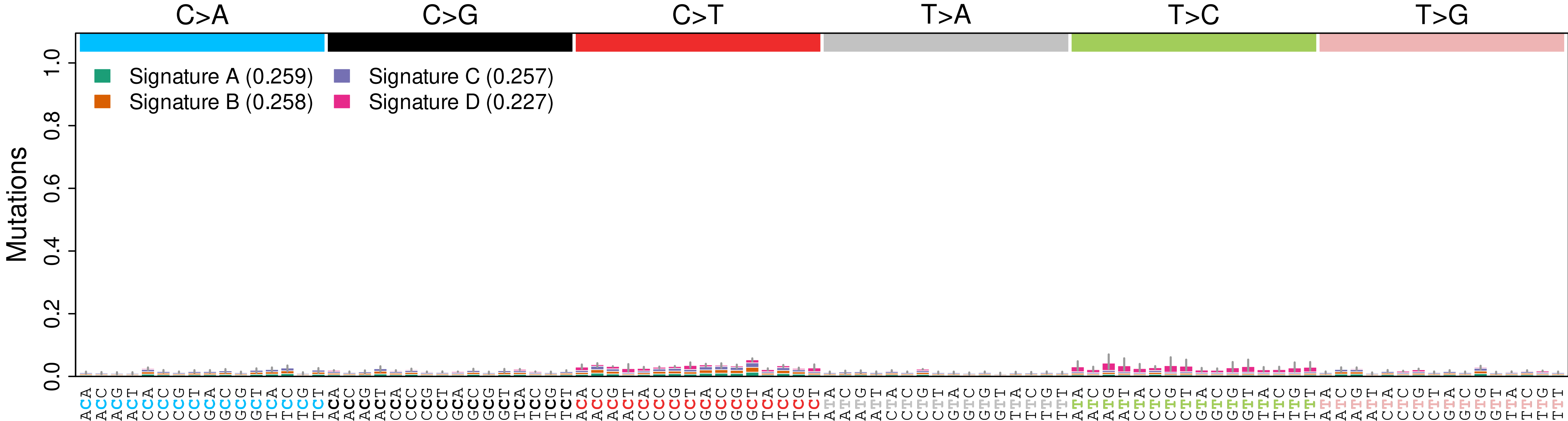
CATD304a (2 mutations)

Reconstructed spectrum (cosine similarity = 0.128)

Signature A (0.238) Signature C (0.236)
Signature B (0.236) Signature D (0.29)
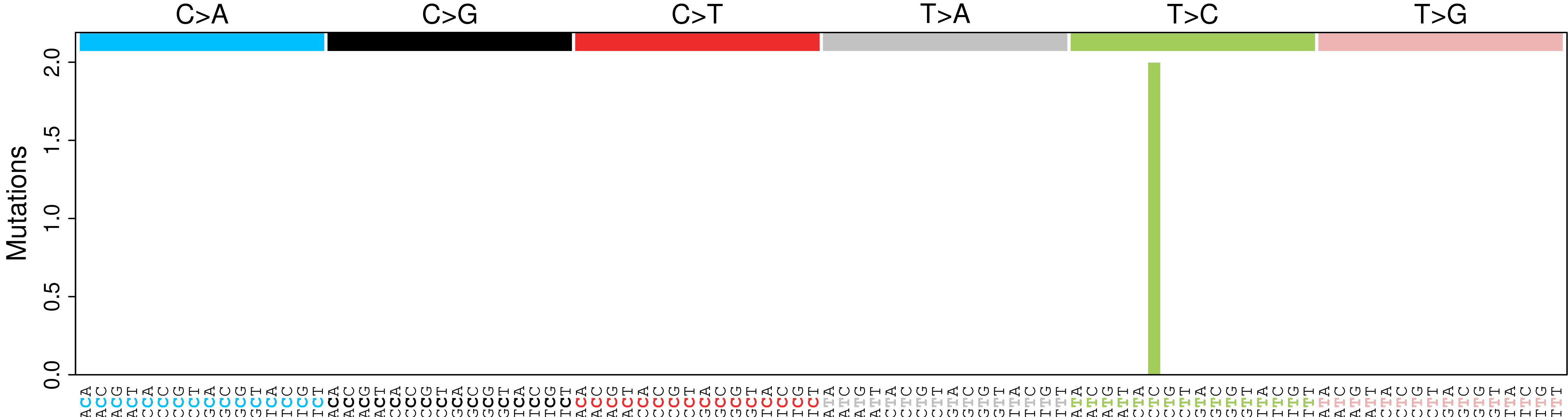
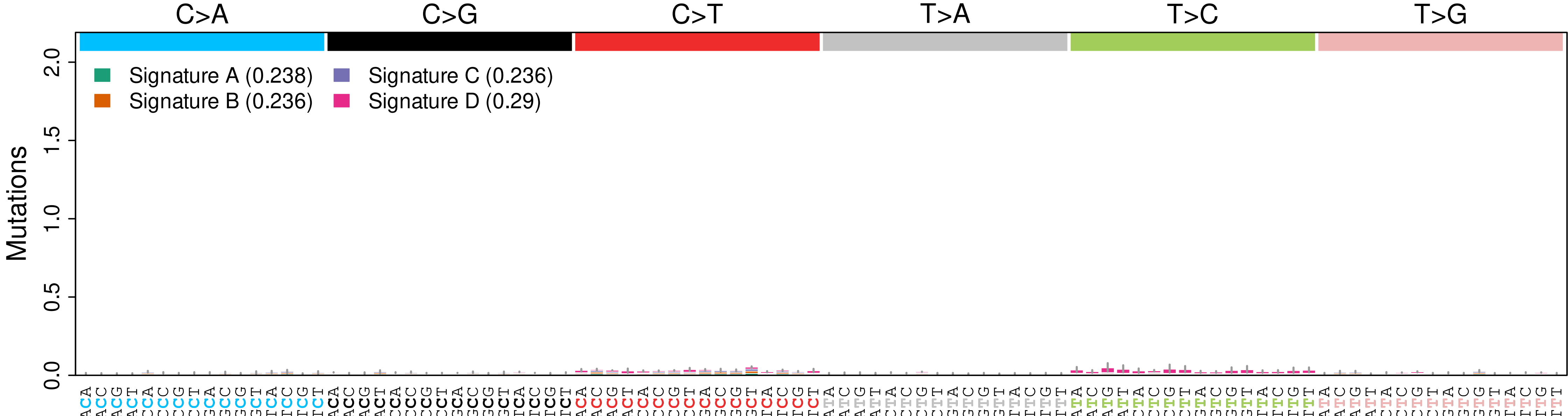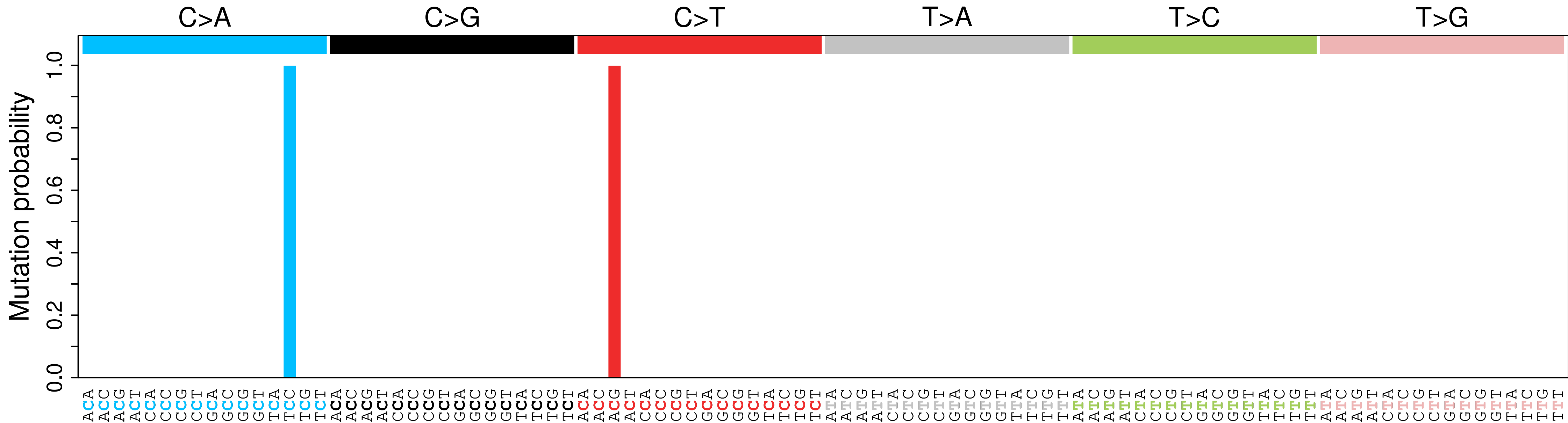**CATD299a**

Reconstructed spectrum (cosine similarity = 0.192)

Signature A (0.263) Signature C (0.265)
Signature B (0.266) Signature D (0.206)
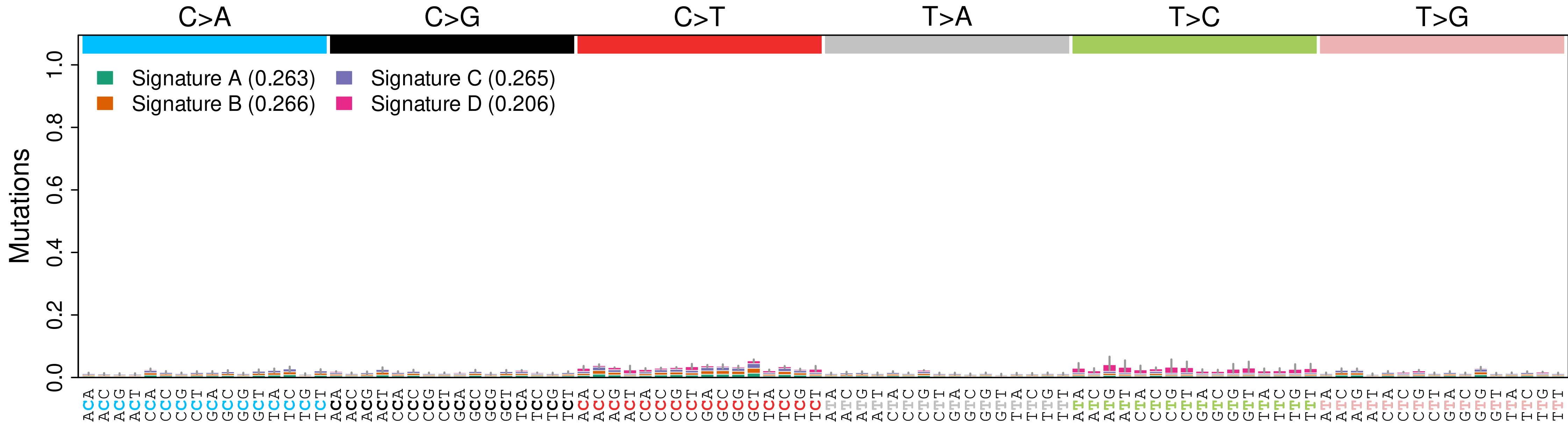
CATD317a

Reconstructed spectrum (cosine similarity = 0.096)

Signature A (0.26) Signature C (0.257)
Signature B (0.258) Signature D (0.224)
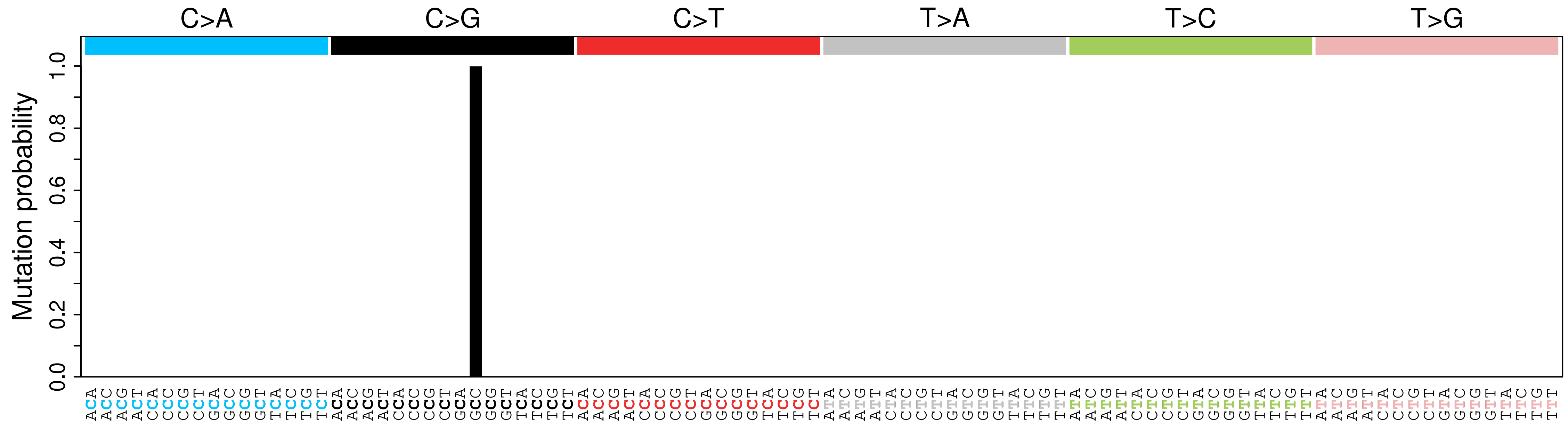
CATD307a

Reconstructed spectrum (cosine similarity = 0.194)

Signature A (0.255) Signature C (0.257)
Signature B (0.258) Signature D (0.23)
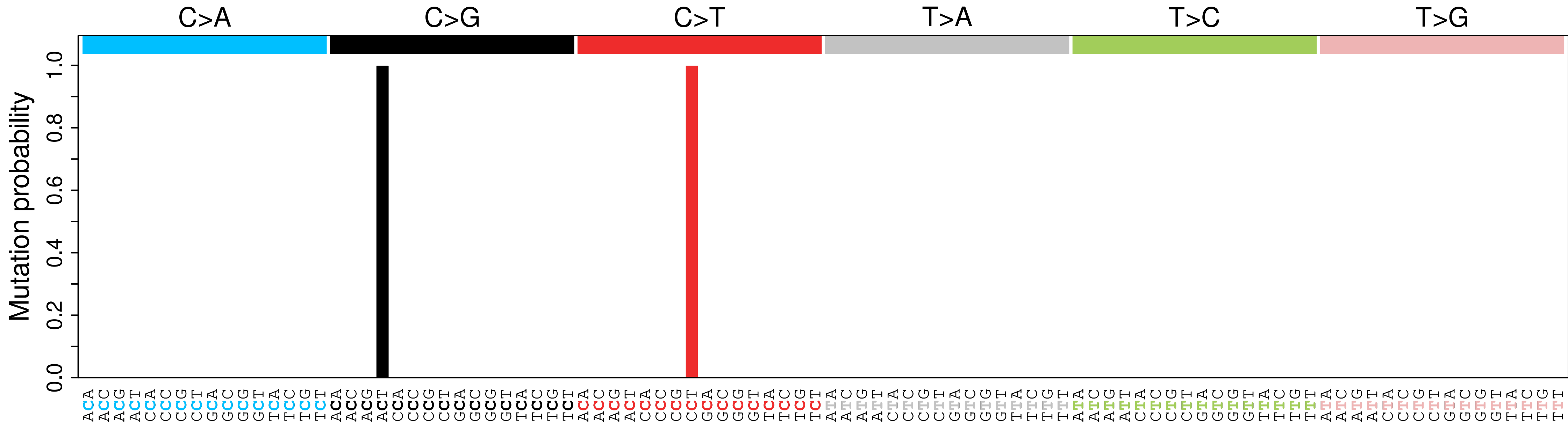
CATD303a (2 mutations)
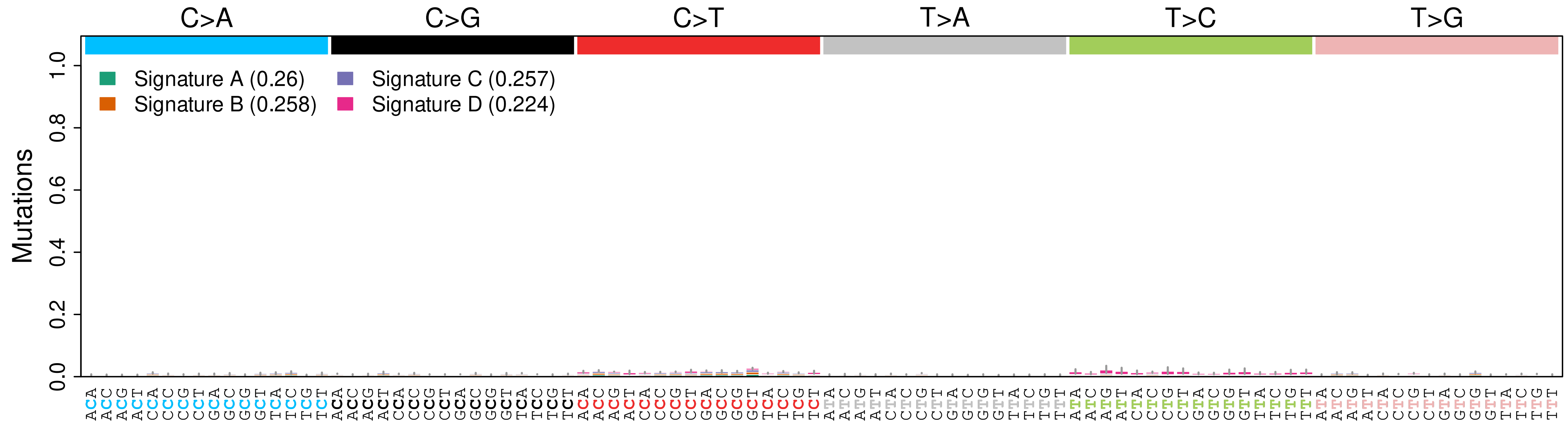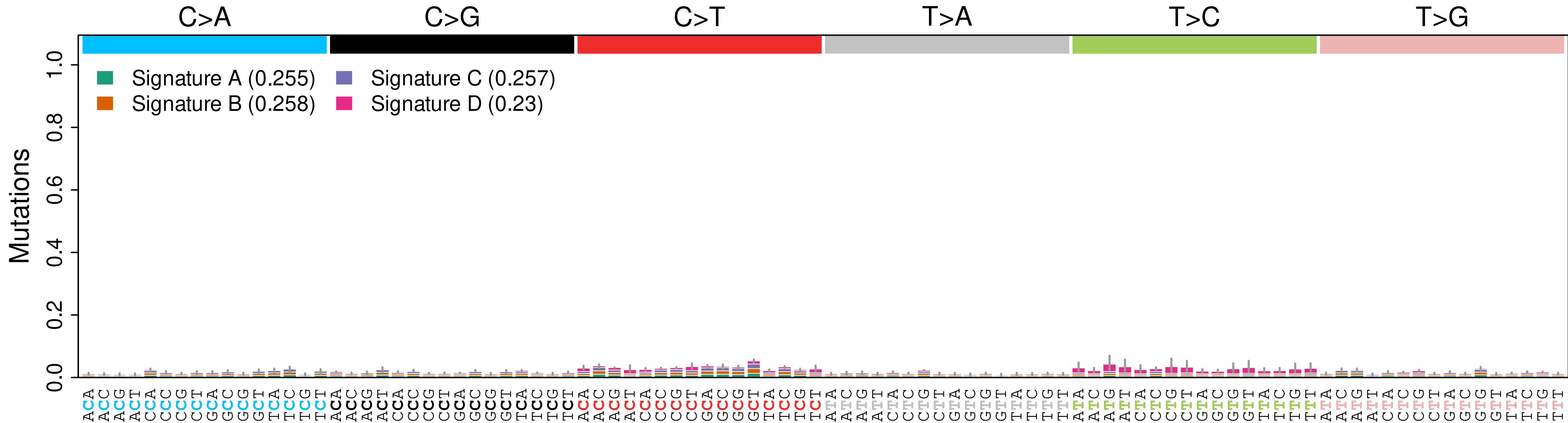

Reconstructed spectrum (cosine similarity = 0.238)

Signature A (0.206) Signature C (0.205)
Signature B (0.204) Signature D (0.386)