X-Ray data for ketone 9f:

- formula: C₈H₁₂N₁O₁Br
- molecular mass [g/mol]: 218.09
- temperature [K]: 300
- colour of crystals: colourless
- crystal size [mm]: 0.19 x 0.41 x 0.27
- symmetry cell setting: orthorhombic
- symmetry space group: P 2₁ 2₁ 2₁ (No. 19)
- parameters a, b, c [Å]: 7.002 (10) 7.432 (10) 16.762 (2)
- parameters α, β, γ [°]: 90 90 90
- cell volume V [Å³]: 872.3 (2)
- cell formula units Z: 4
- calculated density D [g/cm³]: 1.661
- F (000) [electrons]: 440
- 2Θ Min-Max [°]: 2.4 - 56.8
- total number of reflns.: 6316
- total number of ind. Reflins.: 1378
- Nref, Npar: 6316, 101
- R1-factor: 0.0762
- wR2-factor: 0.0495
- S: 0.927

Crystal structure of anti-11o:

- formula: C₈H₁₅N₁O₁Br₂
- molecular mass [g/mol]: 299.53
- temperature [K]: 300
Crystal structure of syn-110:

Formula
molecular mass [g/mol]  C₈H₁₅N₁O₁Br₂ 299.53
temperature [K]  300
colour of crystals  colourless
Crystal size [mm]  0.38 × 0.17 × 0.23
Symmetry cell setting  orthorhombic
Symmetry space group  P 2₁ 2₁ 2₁
Parameters a, b, c [Å]  6.7100 (10)  6.7120 (10)  23.212 (2)
Parameters α, β, γ [°]  90  90  90
Cell volume V [Å³]  1045.4 (2)
Cell formula units Z  4
Calculated density D [g/cm³]  1.913
F (000) [electrons]  592
2Θ Min-Max [°]  6.3 - 41.8
Total number of reflns.  1331
Total number of ind. Reflns.  900
N_ref, N_par  900
R1-factor  0.1053
wR2-factor  0.0951
(1S,2R,4S)-(E/Z)-5-Ethylidene-2-hydroxymethyl-1-azabicyclo[2.2.2]octane 5a
(1S,2R,4S)-2-(Butylimethylsilyloxy)methyl)-(E)-5-ethylidene-1-azabicyclo[2.2.2]octane 5b
(1S,2R,4S)-2-\{(Butyldiphenylsilanyloxymethyl)-(E)-5-ethylidene-1-azabicyclo[2.2.2]octane\}c
(1S,2R,4S)-2-(Benzoyloxymethyl)-(E/Z)-5-ethyliden-1-azabicyclo[2.2.2]octane 5d
(1S,2S,4S)-(E/Z)-5-Ethylidene-2-hydroxymethyl-1-azabicyclo[2.2.2]octane 6a
(1S,2S,4S)-2-{Butyldimethylsilanyloxymethyl}-(E)-5-ethyldene-1-azabicyclo[2.2.2]octane 6b
(1S,2S,4S)-2-(Butyldiphenylsilanyloxy)methyl)-(E/Z)-5-ethylidene-1-azabicyclo[2.2.2]octane 6c
(1S,2S,4S)-2-(Benzoyloxymethyl)-(E/Z)-5-ethylidene-1-azabicyclo[2.2.2]octane 6d
(1S,2R,4S,5R/S,10R/S)-2-(Butyldimethylsilanyloxymethyl)-5-(5,10-dihydroxyethyl)-1-aza-bicyclo[2.2.2]octane 7a
(1S,2R,4S,5R/S,10R/S)-2-(Butyldiphenylsilanyloxymethyl)-5-(5,10-dihydroxyethyl)-1-aza-bicyclo[2.2.2]octane 7b
(1S,2S,4S,5R/S,10R/S)-2-(Butyldimethylsilanyloxymethyl)-5-(5,10-dihydroxyethyl)-1-aza-bicyclo[2.2.2]octane 8a
(1S,2S,4S,5R/S,10R/S)-2-(Butyldiphenylsilyloxymethyl)-5-(5,10-dihydroxyethyl)-1-aza-bicyclo[2.2.2]octane 8b
(1S,2R,4S)-2-(Butyl(dimethyl)silanyloxymethyl)-1-azabicyclo[2.2.2]octan-5-one 9a
(1S,2R,4S)-2-(Butyldiphenylsilanyloxymethyl)-1-azabicyclo[2.2.2]octan-5-one 9b
(1S,2R,4S)-2-(Triisopropylsilanyloxy)methyl]-1-azabicyclo[2.2.2]octan-5-one 9c
(1S,2R,4S)-2-(Triphenylmethoxymethyl)-1-azabicyclo[2.2.2]octan-5-one 9e
(1S,2S,4S)-2-Butyldimethylsilanyloxymethyl-1-azabicyclo[2.2.2]octan-5-one 10a
(1S,2S,4S)-2-[(Butyldiphenylsilyloxy)methyl]-1-azabicyclo[2.2.2]octan-5-one 10b
(1S,2R,4S,5S/R)-2-(Butyldiphenylsilanyloxymethyl)-1-azabicyclo[2.2.2]octan-5-ol 11b