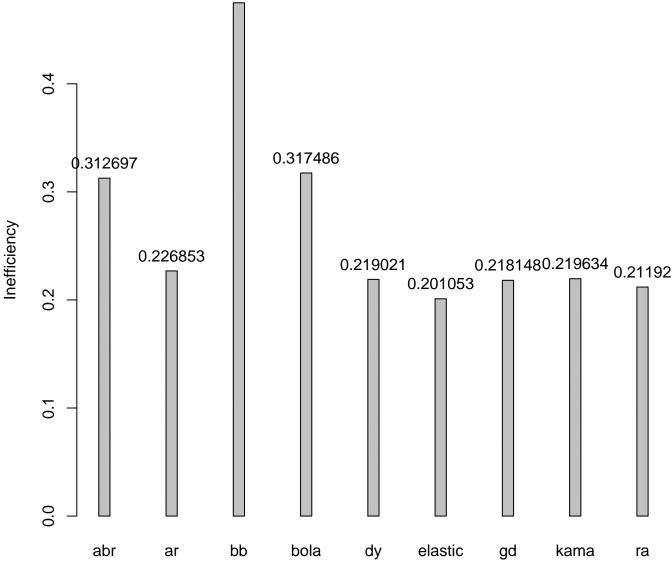


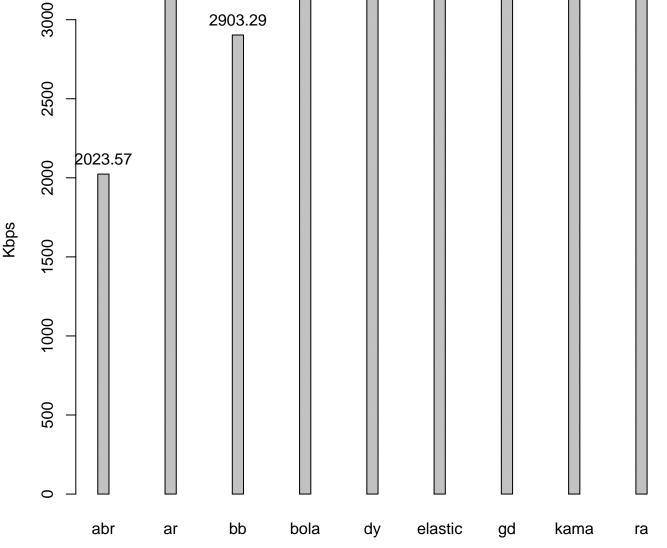
Network profile: p1 Sample: t1 Metric: Inefficiency Buffer: 240

Oueue length threshold: 10



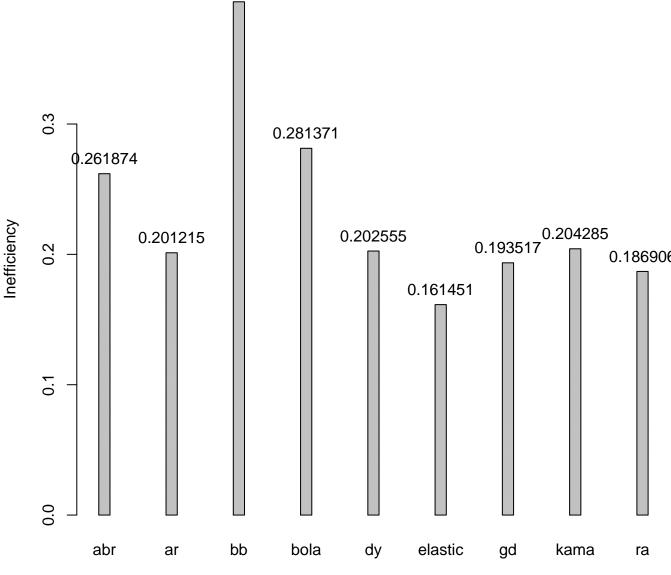
Network profile: p1 Sample: t1 Metric: # quality change Buffer: 240 Queue length threshold: 10 81 80 73 69 67 9 51 # Quality changes 45 40 20 8 6 elastic abr bola dy kama ar bb gd ra

Network profile: p1 Sample: t2 Metric: Avg-Bitrate Buffer: 240 **Queue length threshold: 10**3245.98 3200.32 3161.85 3198.3 3195.13 3238.41 3214 2903.29

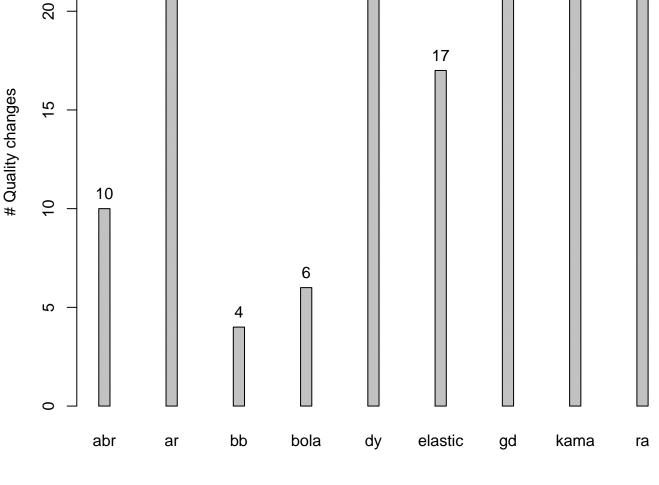


Network profile: p1 Sample: t2 Metric: Inefficiency Buffer: 240

Oueue length threshold: 10



Network profile: p1 Sample: t2 Metric: # quality change Buffer: 240 Queue length threshold: 10



Network profile: p1 Sample: t3 Metric: Avg-Bitrate Buffer: 240 3363.3 3385.77 3346.77 3351.72 3337.18 3347.3 3157.22 3078.48 3000 2500 2000 1659.68 1500 1000 500

bola

dy

elastic

gd

kama

ra

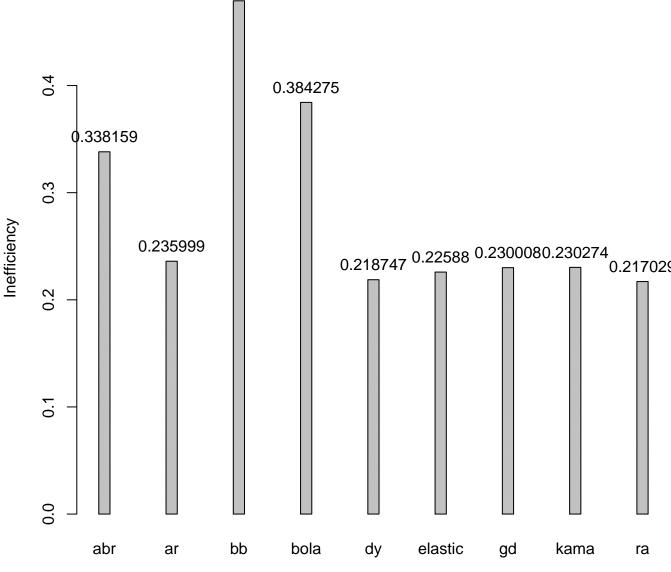
Kbps

abr

ar

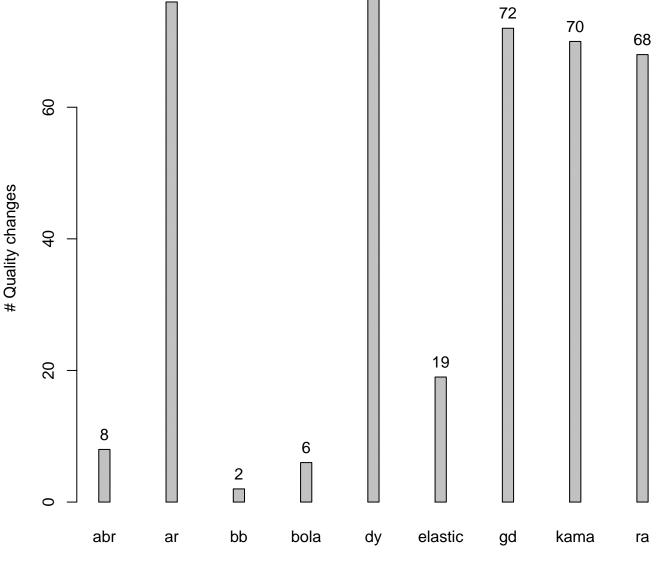
bb

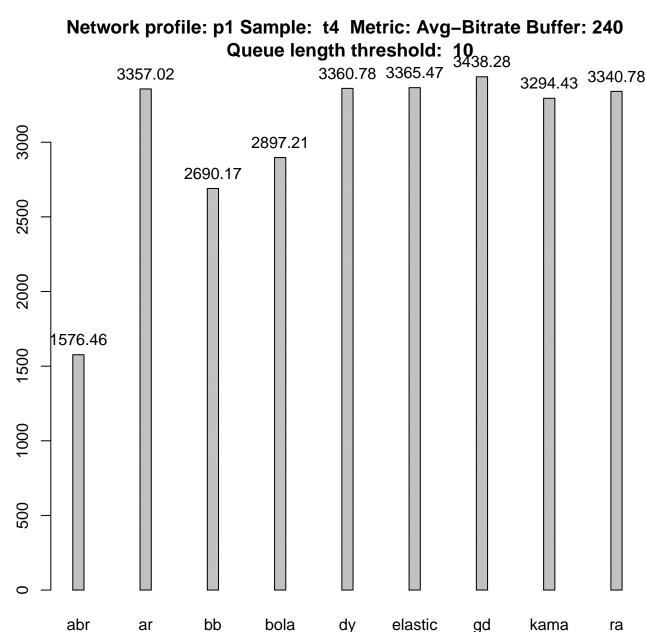
Network profile: p1 Sample: t3 Metric: Inefficiency Buffer: 240
Oueue length threshold: 10



Network profile: p1 Sample: t3 Metric: # quality change Buffer: 240

Queue length threshold: 10

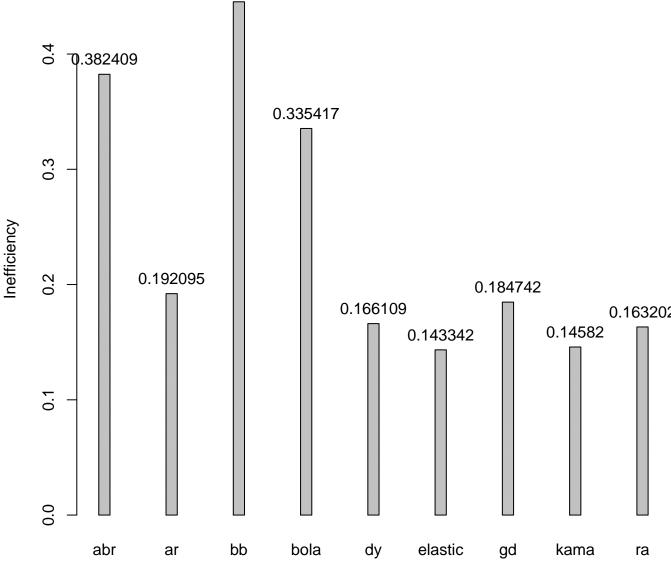




Kbps

Network profile: p1 Sample: t4 Metric: Inefficiency Buffer: 240

Queue length threshold: 10



Network profile: p1 Sample: t4 Metric: # quality change Buffer: 240 Queue length threshold: 10 31 30 25 23 20 20 19 # Quality changes 15 15 10 8 8 6 2 3 bola elastic abr bb dy kama ar gd ra

Network profile: p1 Sample: t5 Metric: Avg-Bitrate Buffer: 240 Queue length threshold: 10 2086.03 2065.71 2114.17 2094.57 2000 1753.6 1500 1390.39 899.081 500

bola

dy

bb

elastic

gd

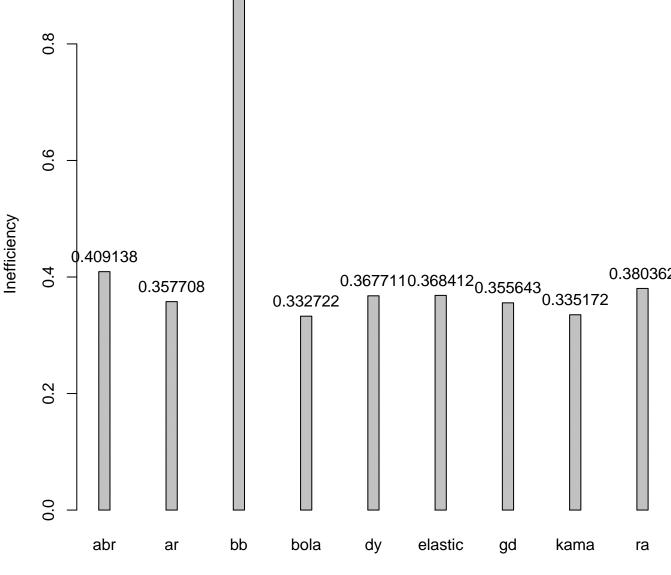
kama

ra

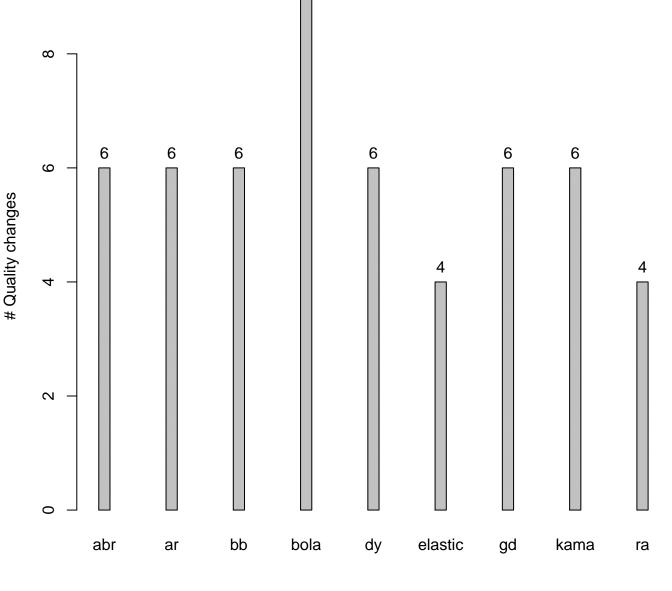
abr

ar

Network profile: p1 Sample: t5 Metric: Inefficiency Buffer: 240 Oueue length threshold: 10



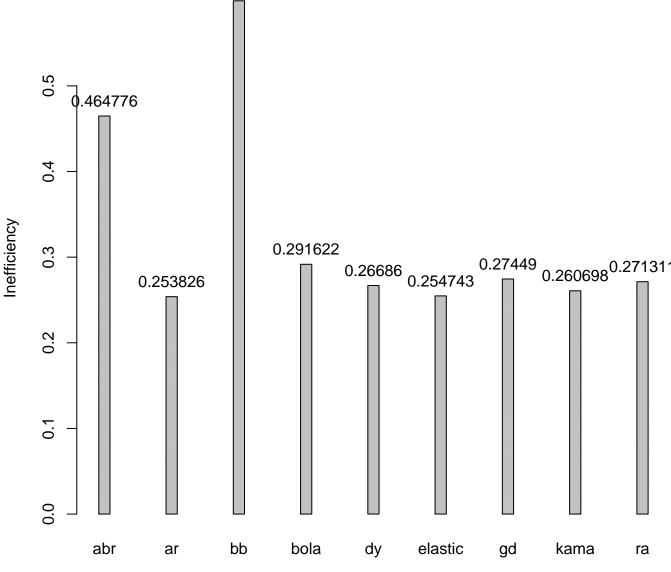
Network profile: p1 Sample: t5 Metric: # quality change Buffer: 240 Queue length threshold: 10



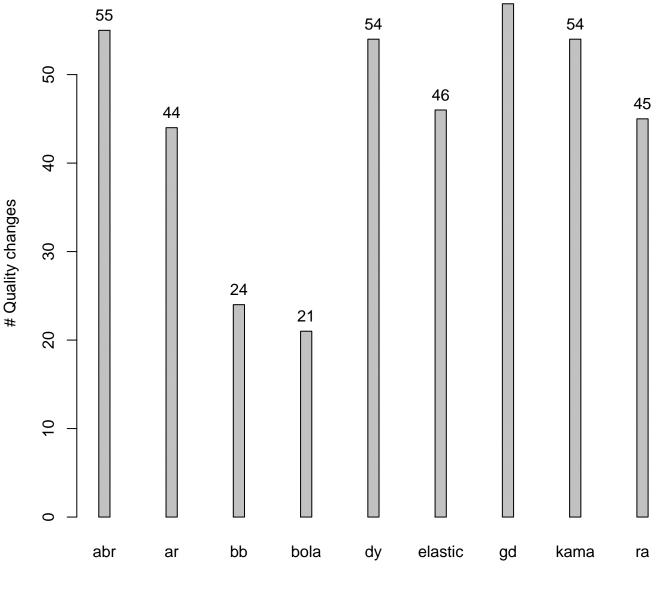
Network profile: p1 Sample: t6 Metric: Avg-Bitrate Buffer: 240 Queue length threshold: 10 2970.55 2824.37 _{2786.75} 2839.87 2831.68 2837.63 2591.72 2581 2500 2000 1730.74 1500 1000 500 abr bola elastic ar bb dy gd kama ra

Network profile: p1 Sample: t6 Metric: Inefficiency Buffer: 240

Queue length threshold: 10



Network profile: p1 Sample: t6 Metric: # quality change Buffer: 240 Queue length threshold: 10₅₈



Network profile: p1 Sample: t7 Metric: Avg-Bitrate Buffer: 240 **Queue length threshold:** 10 2762.59 2767.67 2746.76 2763.91 2754.97 2664 2657.37 2523.29 2466.26

bola

bb

elastic

gd

kama

ra

dy

2500

2000

1500

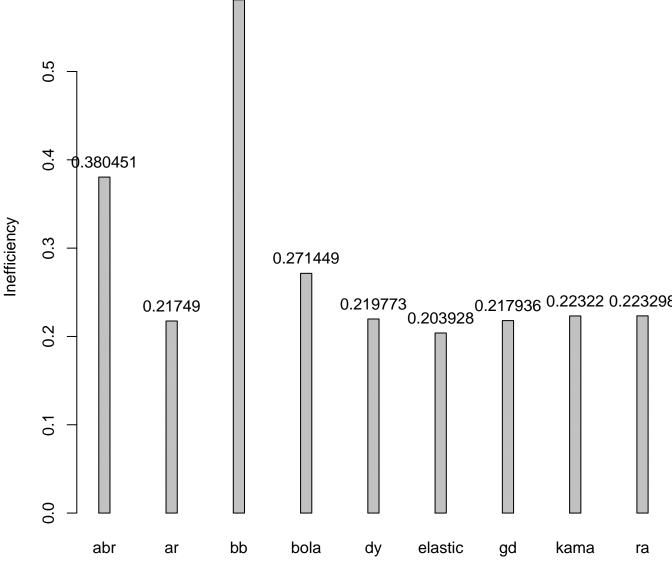
500

abr

ar

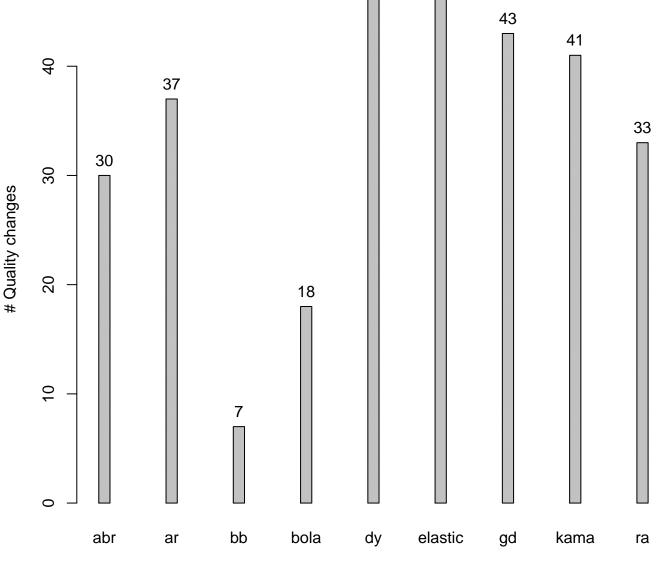
Network profile: p1 Sample: t7 Metric: Inefficiency Buffer: 240

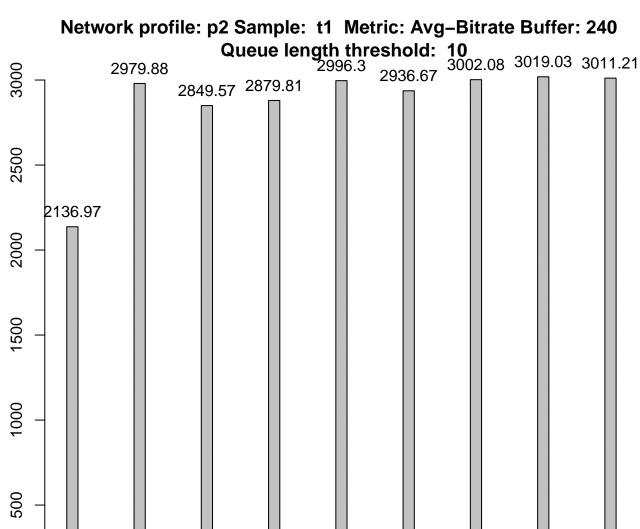
Queue length threshold: 10



Network profile: p1 Sample: t7 Metric: # quality change Buffer: 240

Queue length threshold: 10

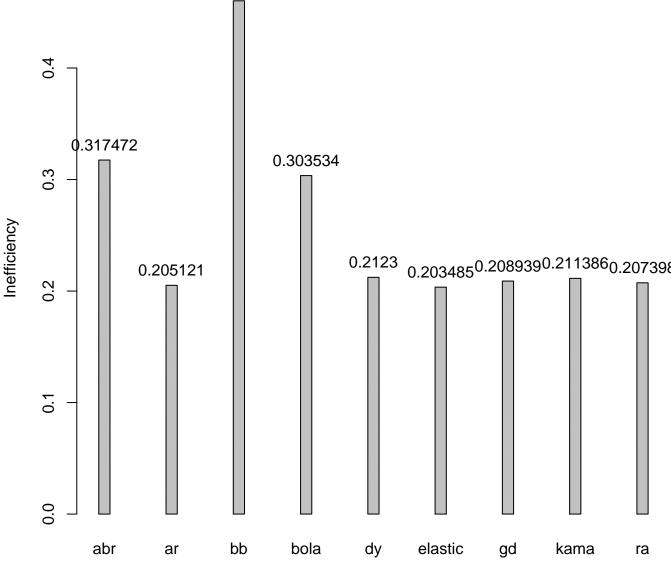




abr ar bb bola dy elastic gd kama ra

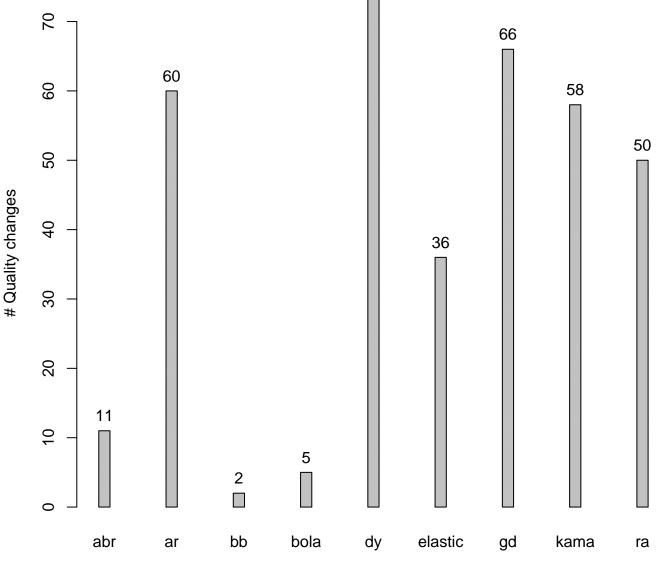
Network profile: p2 Sample: t1 Metric: Inefficiency Buffer: 240

Queue length threshold: 10



Network profile: p2 Sample: t1 Metric: # quality change Buffer: 240

Queue length threshold: 10



Network profile: p2 Sample: t2 Metric: Avg-Bitrate Buffer: 240 Queue length threshold: 10 3300.23 3245.72 3267.02 3308.25 3296.32 3267.12 3060.23 2282.76 2248.34 abr bola elastic ar bb dy gd kama ra

3000

2500

2000

1500

1000

500

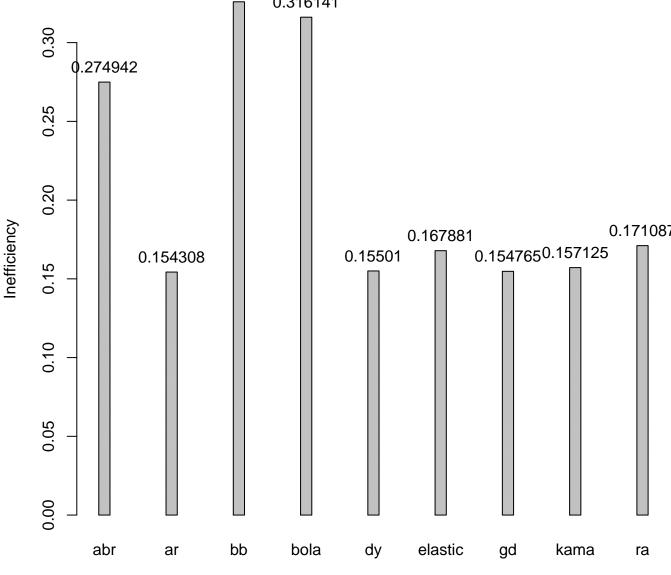
Kbps

Network profile: p2 Sample: t2 Metric: Inefficiency Buffer: 240

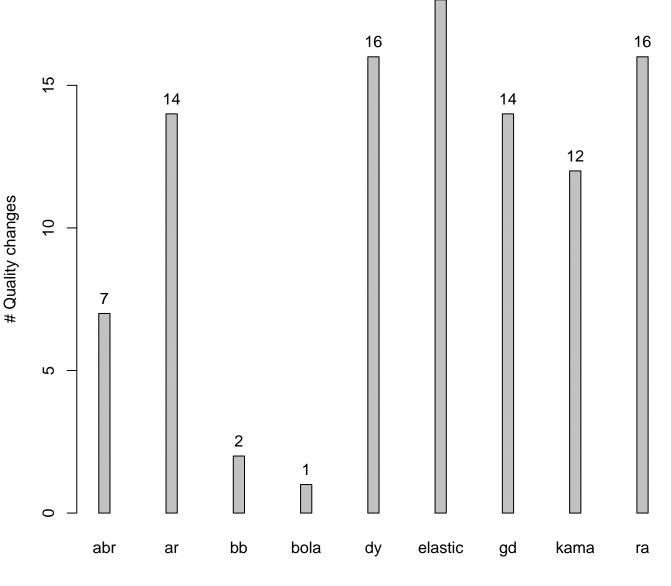
Queue length threshold: 10

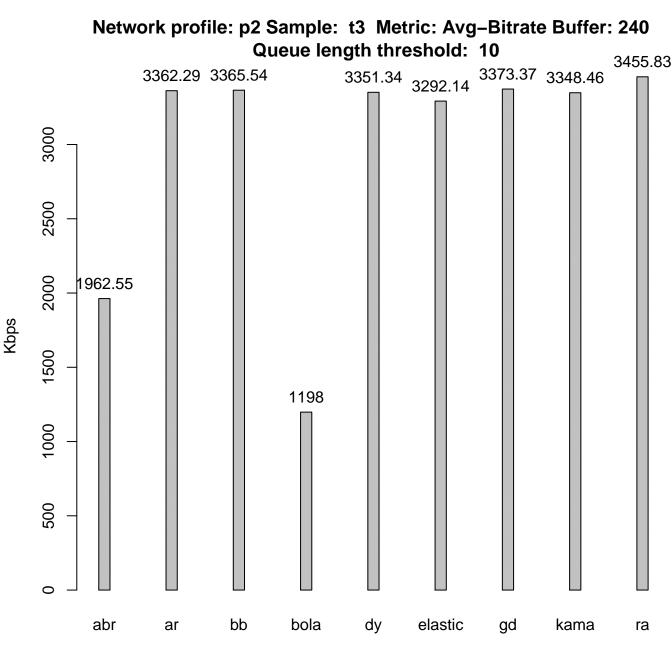
0.325926

0.316141



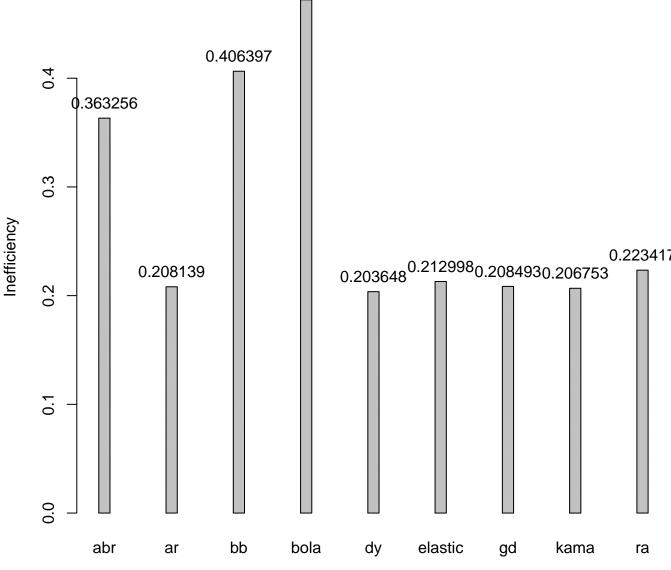
Network profile: p2 Sample: t2 Metric: # quality change Buffer: 240 Queue length threshold: 10





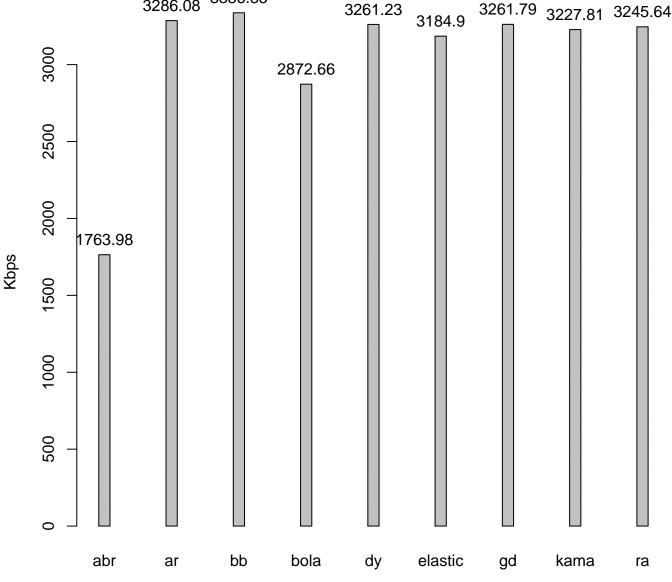
Network profile: p2 Sample: t3 Metric: Inefficiency Buffer: 240

Queue length threshold: 10



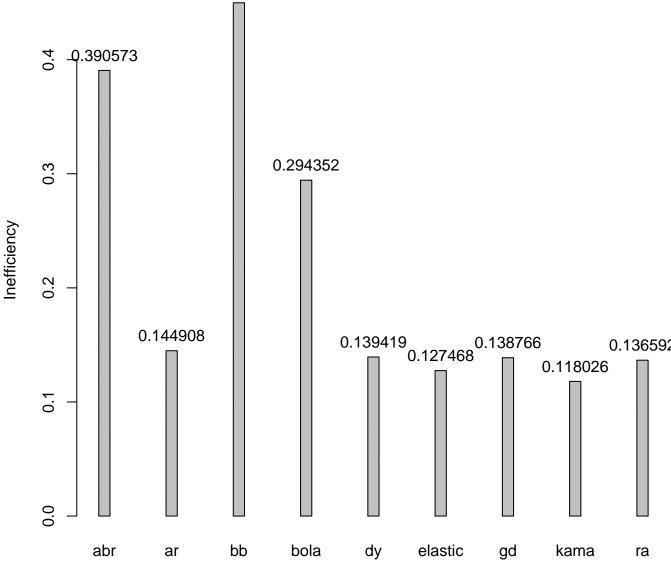
Network profile: p2 Sample: t3 Metric: # quality change Buffer: 240 Queue length threshold: 10 66 9 58 58 56 56 50 40 40 # Quality changes 30 20 13 10 elastic abr bb bola dy kama ar gd ra

Network profile: p2 Sample: t4 Metric: Avg-Bitrate Buffer: 240 Queue length threshold: 10 3261.23 3184.9

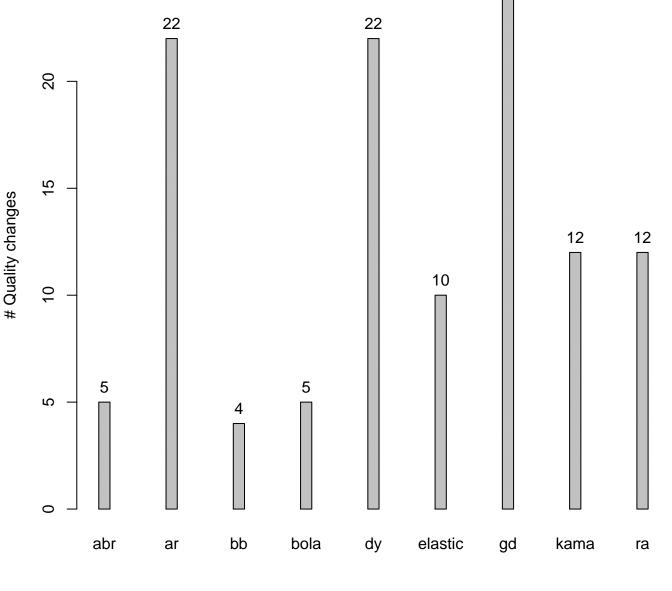


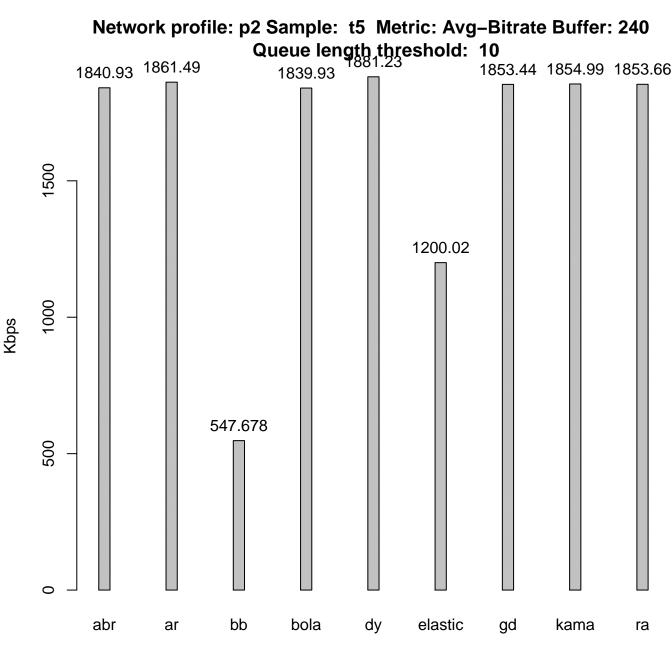
Network profile: p2 Sample: t4 Metric: Inefficiency Buffer: 240

Queue length threshold: 10



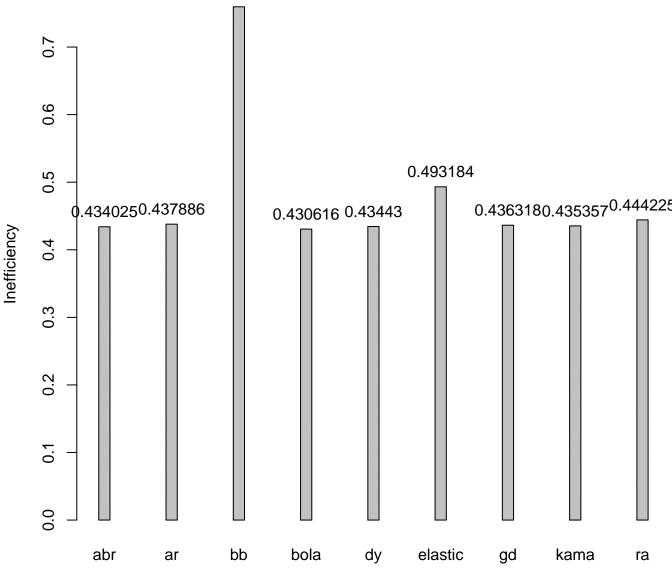
Network profile: p2 Sample: t4 Metric: # quality change Buffer: 240 Queue length threshold: 10 24

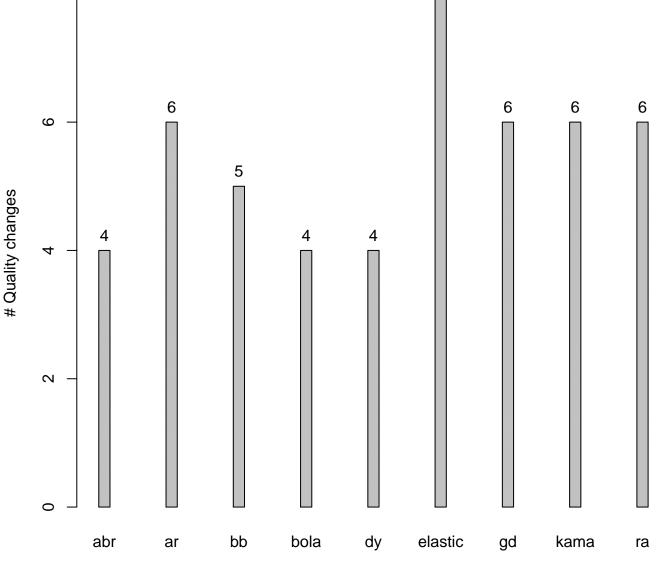




Network profile: p2 Sample: t5 Metric: Inefficiency Buffer: 240

Queue length threshold: 10

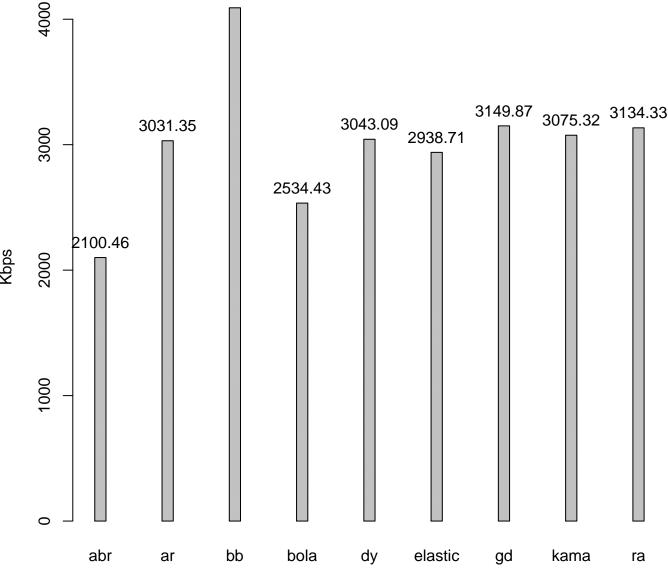




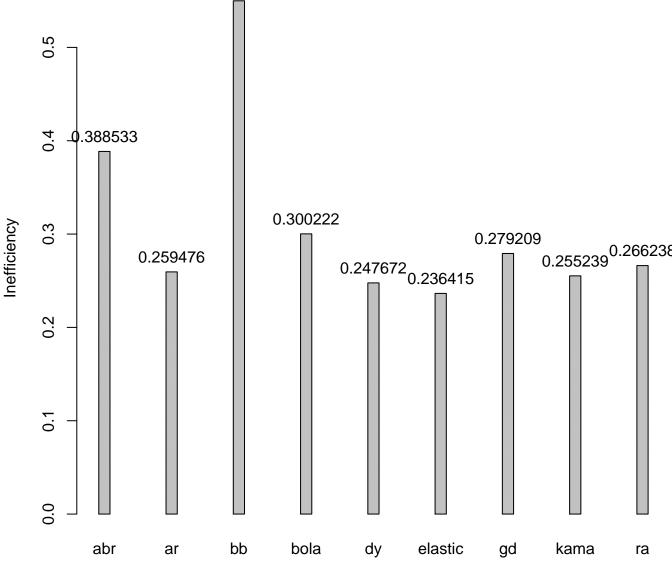
Network profile: p2 Sample: t6 Metric: Avg-Bitrate Buffer: 240

4091.08

| Oueue length threshold: 10



Network profile: p2 Sample: t6 Metric: Inefficiency Buffer: 240
Oueue length threshold: 10

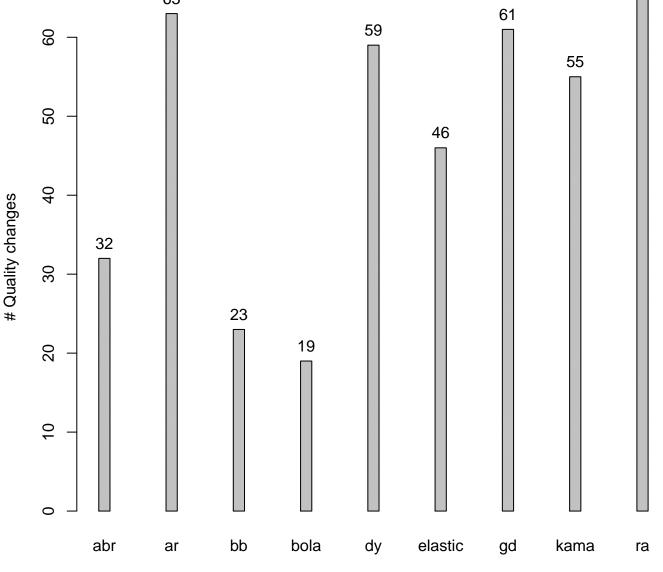


Network profile: p2 Sample: t6 Metric: # quality change Buffer: 240

Queue length threshold: 10

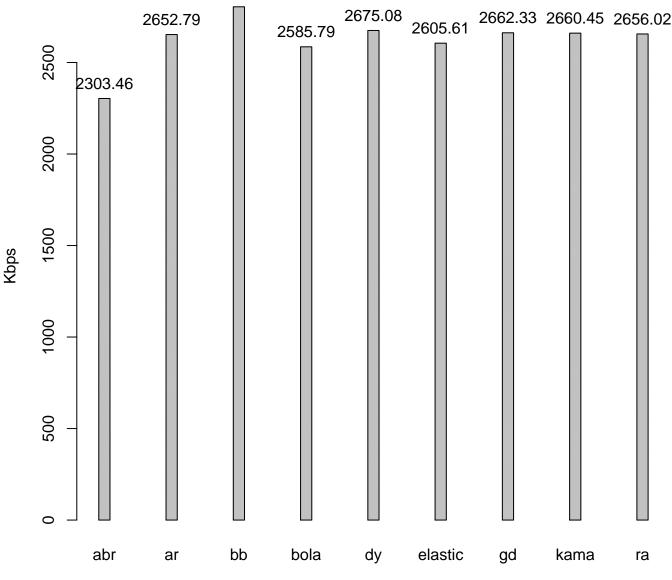
63

61

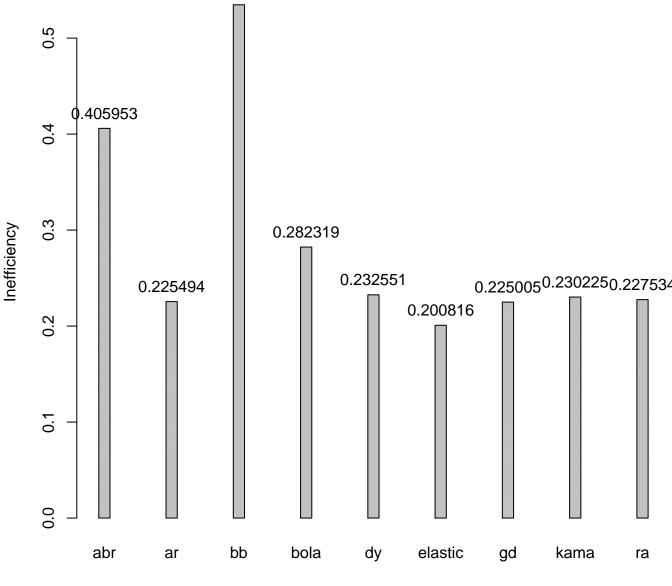


Network profile: p2 Sample: t7 Metric: Avg-Bitrate Buffer: 240

2804.4



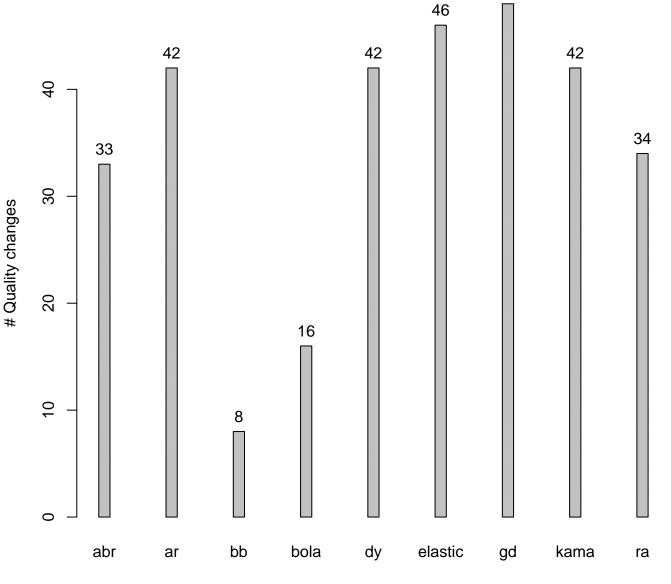
Network profile: p2 Sample: t7 Metric: Inefficiency Buffer: 240 Queue length threshold: 10

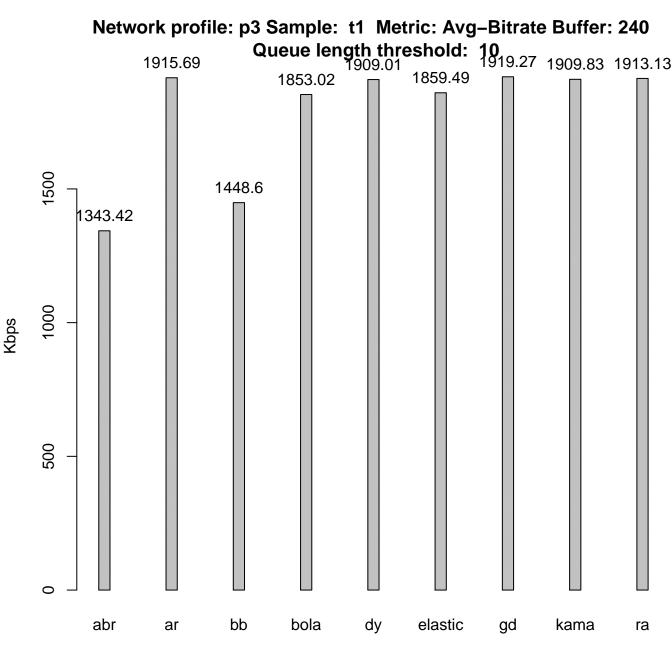


Network profile: p2 Sample: t7 Metric: # quality change Buffer: 240

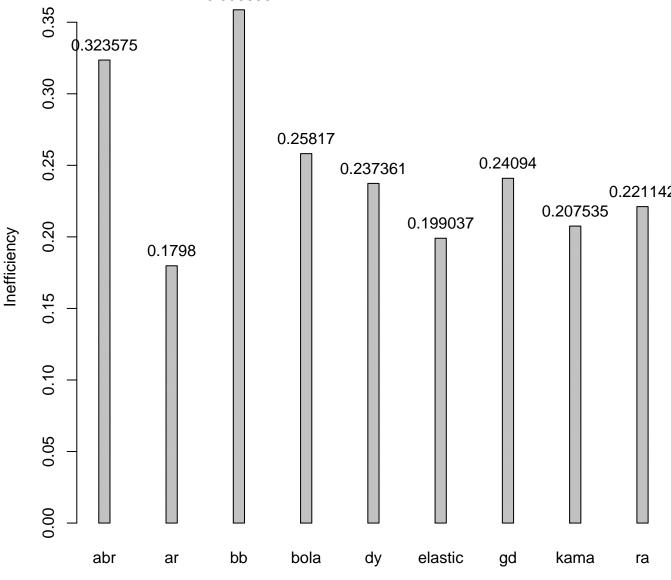
Queue length threshold: 10

48





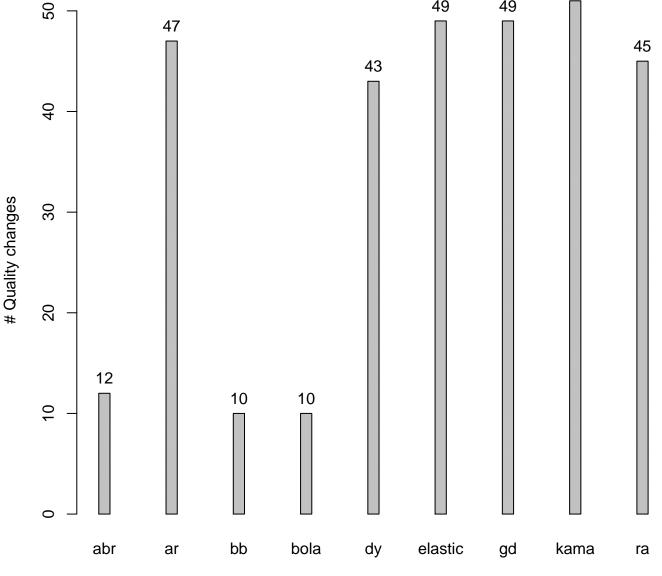
Network profile: p3 Sample: t1 Metric: Inefficiency Buffer: 240 Queue length threshold: 10



Network profile: p3 Sample: t1 Metric: # quality change Buffer: 240

Queue length threshold: 10

8 7



Network profile: p3 Sample: t2 Metric: Avg-Bitrate Buffer: 240 Queue length threshold: 10 2501.58 2500 2424.64 2376.56 2402.26 2291.75 2219.99 2129.93 2079.02 2000 1699.53 1500 1000 500

bola

dy

bb

elastic

gd

kama

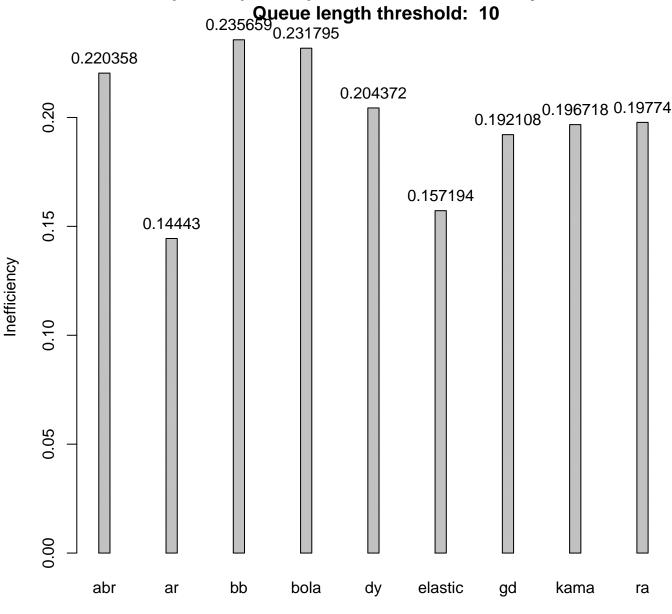
ra

abr

ar

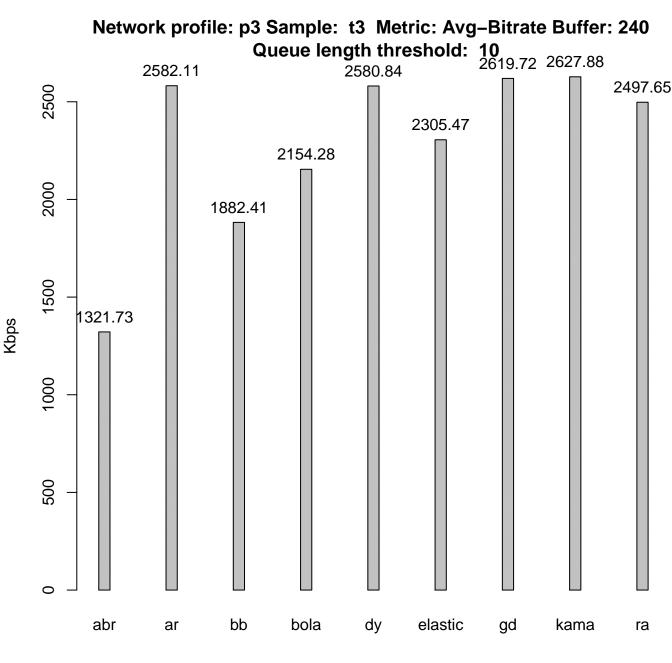
Network profile: p3 Sample: t2 Metric: Inefficiency Buffer: 240

Queue length threshold: 10



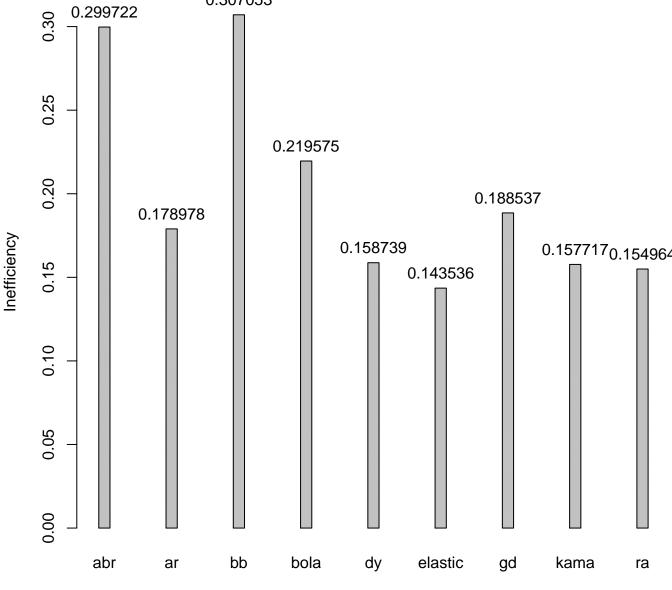
Network profile: p3 Sample: t2 Metric: # quality change Buffer: 240 Queue length threshold: 10 30 30 30 29 28 27 25 24 20 15 13 10 2 4 3 elastic abr bb bola dy kama ar gd ra

Quality changes



Network profile: p3 Sample: t3 Metric: Inefficiency Buffer: 240

Oueue length threshold: 10



Network profile: p3 Sample: t3 Metric: # quality change Buffer: 240 Queue length threshold: 10 98 96 88 84 82 80 67 9 40 22 20 5 5 elastic abr bb bola dy kama ar gd ra

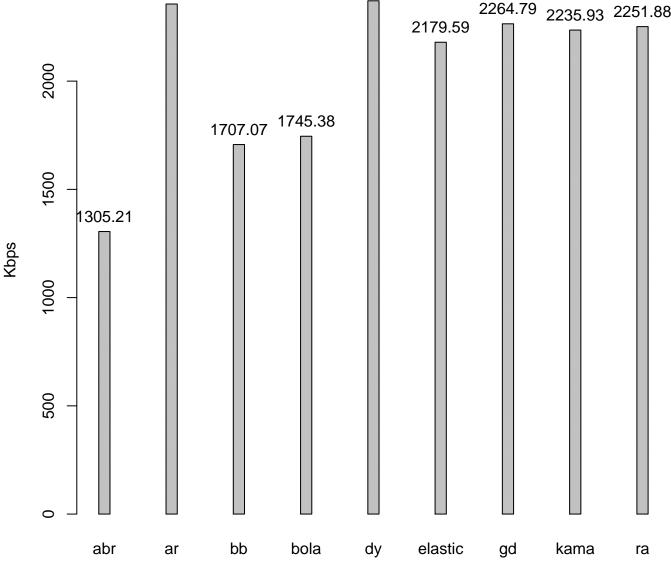
Quality changes

Network profile: p3 Sample: t4 Metric: Avg-Bitrate Buffer: 240

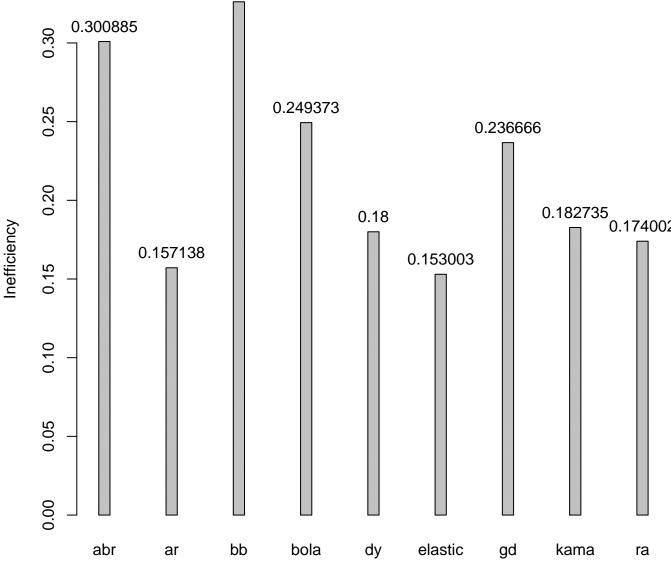
Queue length threshold: 10

2356.22

2264.79 2251



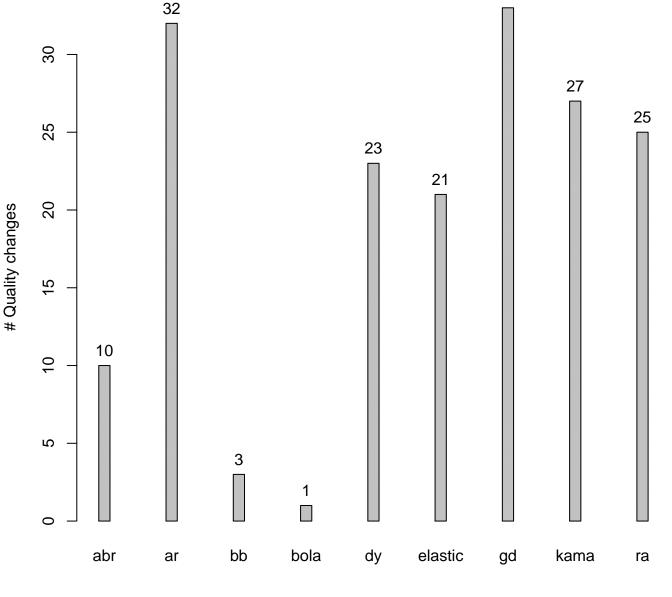
Network profile: p3 Sample: t4 Metric: Inefficiency Buffer: 240 0.32614



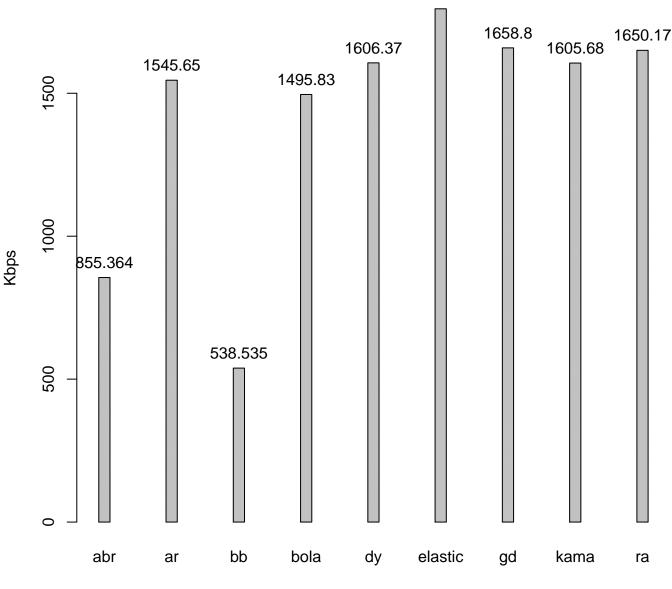
Network profile: p3 Sample: t4 Metric: # quality change Buffer: 240

Queue length threshold: 10

33

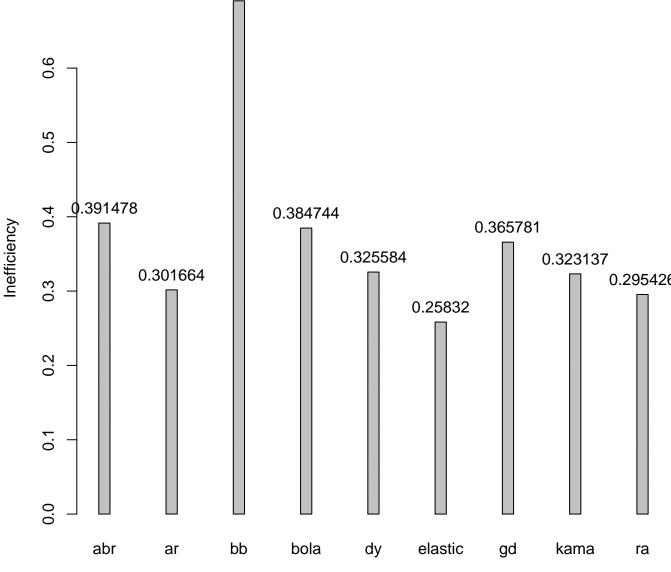


Network profile: p3 Sample: t5 Metric: Avg-Bitrate Buffer: 240 Queue length threshold: 10



Network profile: p3 Sample: t5 Metric: Inefficiency Buffer: 240

Oueue length threshold: 10



Network profile: p3 Sample: t5 Metric: # quality change Buffer: 240 Queue length threshold: 10 24 22 20 18 17 16 15 # Quality changes 13 12 10 5 2 elastic abr bb bola dy kama ar gd ra

Network profile: p3 Sample: t6 Metric: Avg-Bitrate Buffer: 240 Queue length threshold: 10 1919.26 1896.14 1856.94 1797.76 1619.92 1518.77 1500 1459.62 1043.21 1000

bola

dy

elastic

gd

kama

ra

500

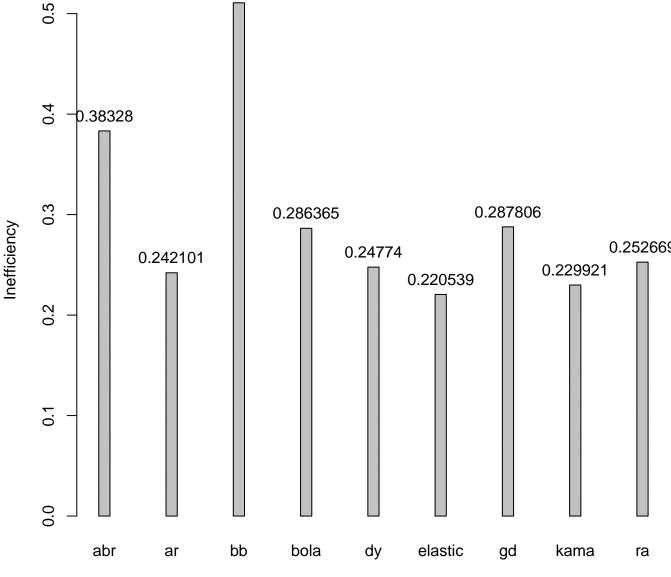
abr

ar

bb

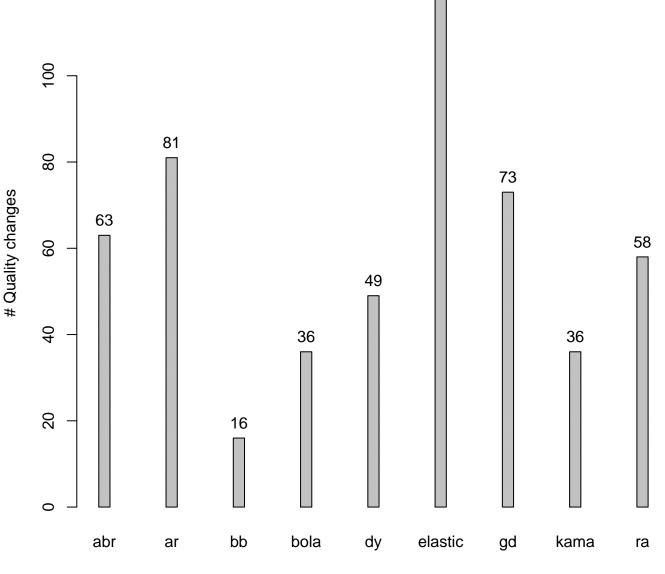
Network profile: p3 Sample: t6 Metric: Inefficiency Buffer: 240

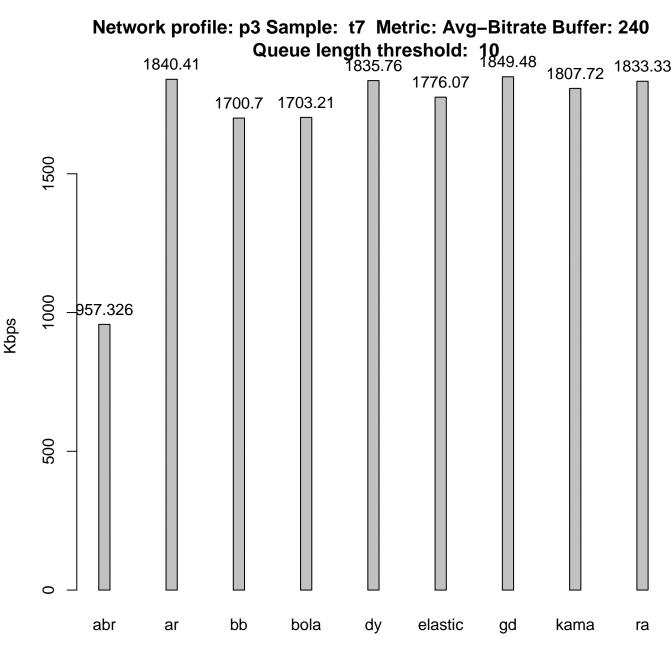
Oueue length threshold: 10



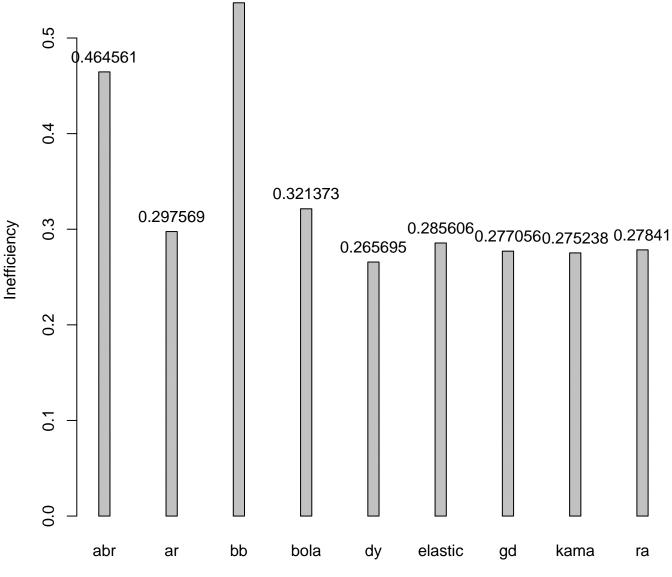
Network profile: p3 Sample: t6 Metric: # quality change Buffer: 240

Queue length threshold: 10



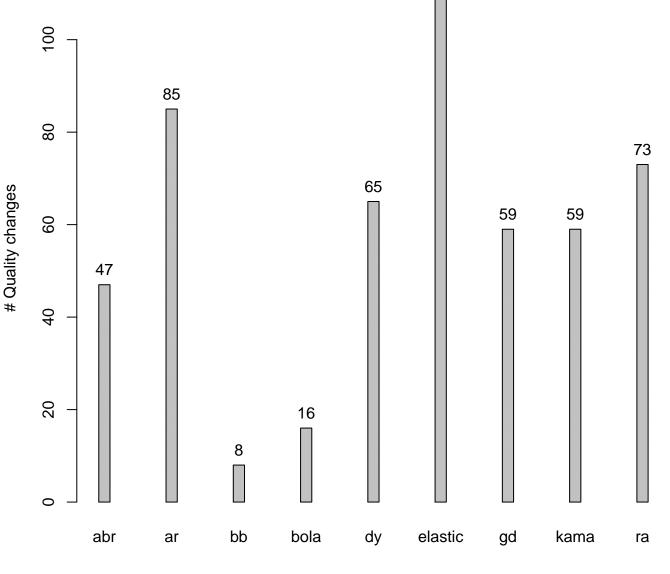


Network profile: p3 Sample: t7 Metric: Inefficiency Buffer: 240
Oueue length threshold: 10

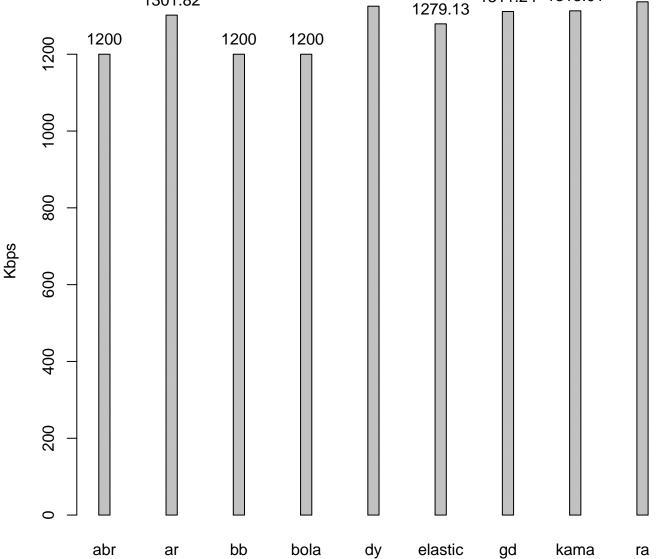


Network profile: p3 Sample: t7 Metric: # quality change Buffer: 240

Queue length threshold: 10



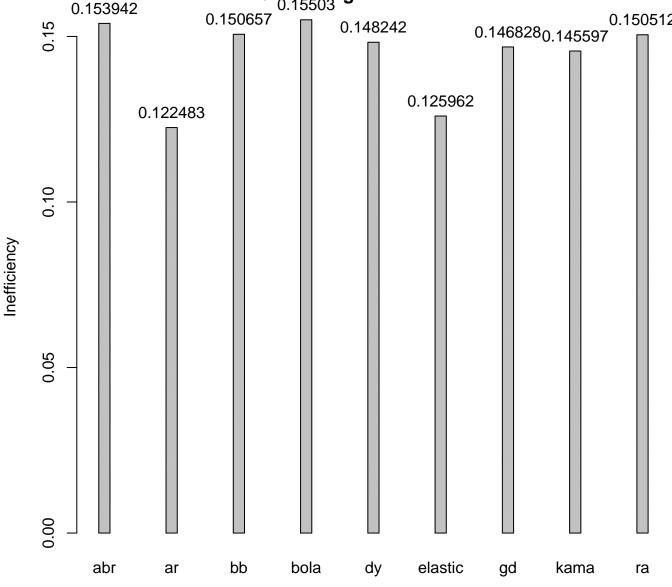
Network profile: p4 Sample: t1 Metric: Avg-Bitrate Buffer: 240 Queue length threshold: 10 1325.05 1336.54 1311.24 1313.01 1301.82 1279.13 1200 1200 1200



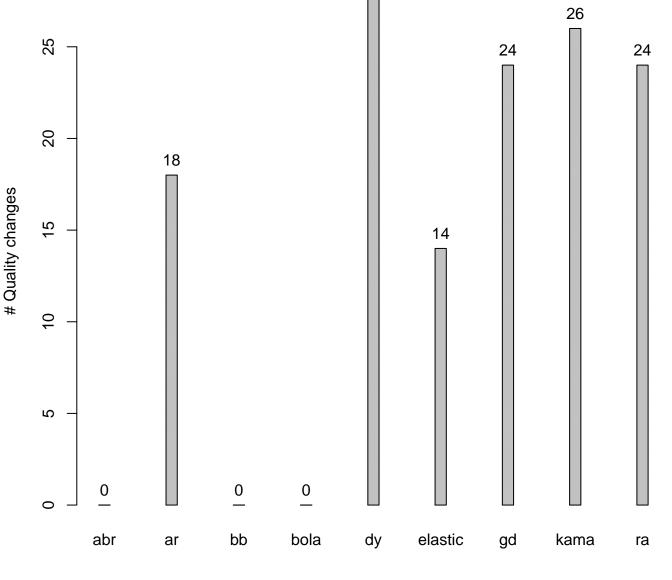
Network profile: p4 Sample: t1 Metric: Inefficiency Buffer: 240

Queue length threshold: 10

0.15503



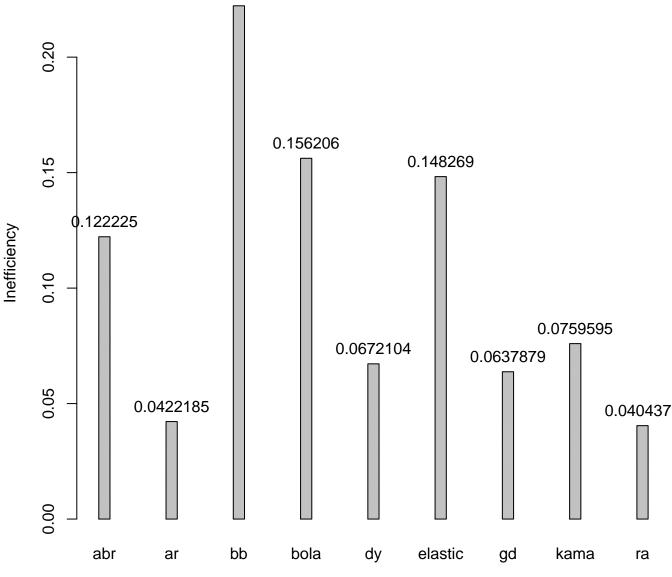
Network profile: p4 Sample: t1 Metric: # quality change Buffer: 240 Queue length threshold: 10



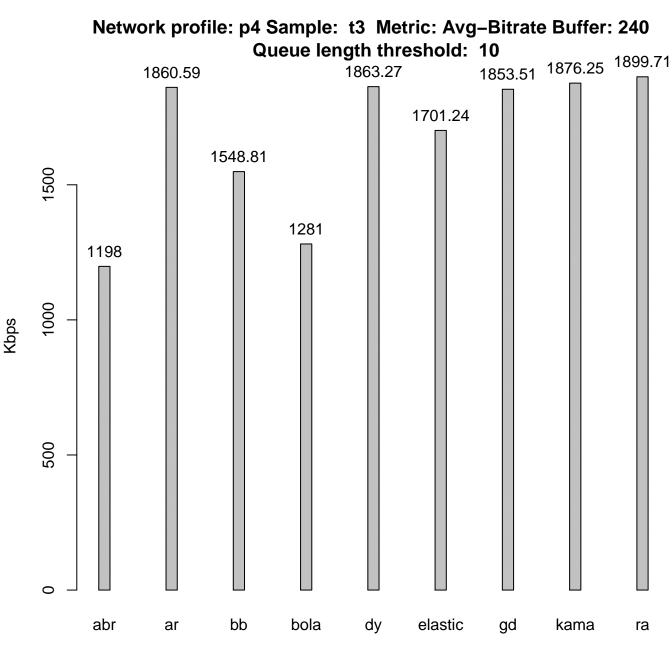
Network profile: p4 Sample: t2 Metric: Avg-Bitrate Buffer: 240 **Queue length threshold:** 10 1739.9 1751.42 1741.17 1761.13 1685.88 1622 1622 1622 1500 500 elastic abr bola ar bb dy gd kama ra

Network profile: p4 Sample: t2 Metric: Inefficiency Buffer: 240

Queue length threshold: 10

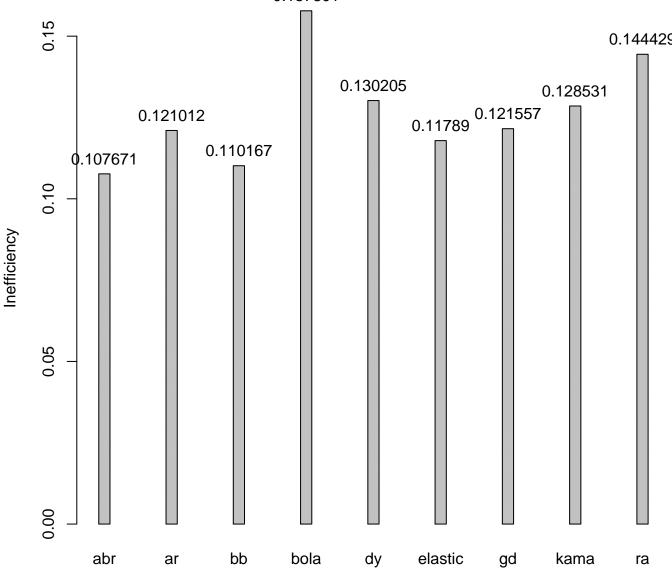


Network profile: p4 Sample: t2 Metric: # quality change Buffer: 240 Queue length threshold: 10 8 8 ∞ 6 9 # Quality changes 4 α elastic abr bola dy kama ar bb gd ra



Network profile: p4 Sample: t3 Metric: Inefficiency Buffer: 240

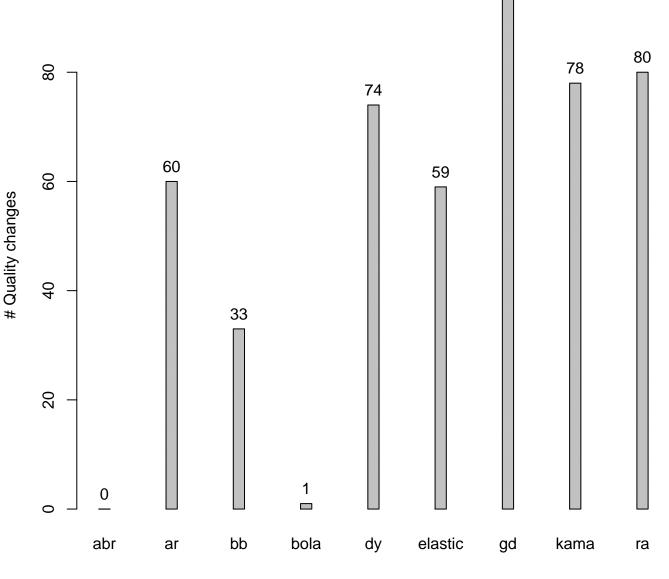
Queue length threshold: 10



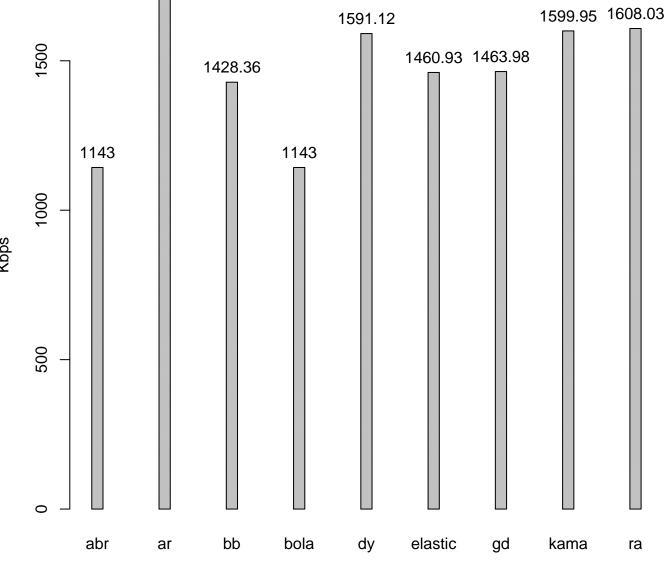
Network profile: p4 Sample: t3 Metric: # quality change Buffer: 240

Queue length threshold: 10

94

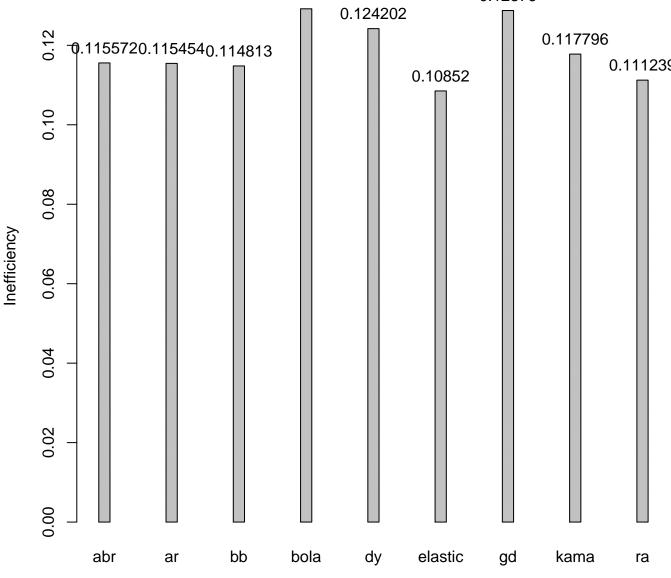


Network profile: p4 Sample: t4 Metric: Avg-Bitrate Buffer: 240 Queue length threshold: 10

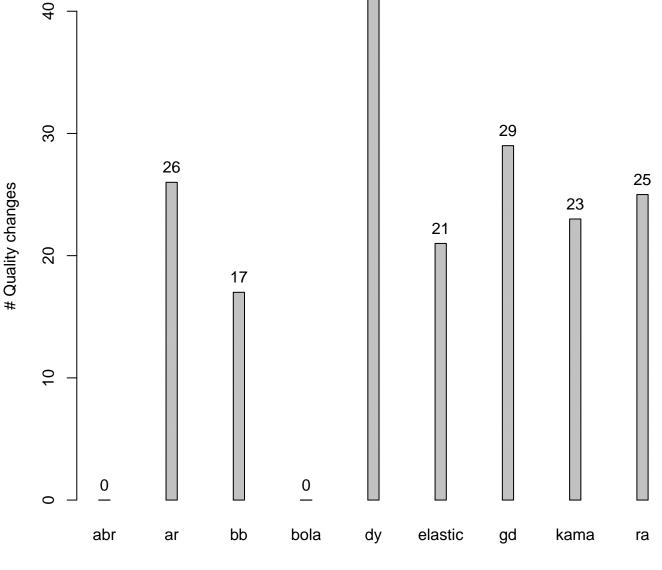


Network profile: p4 Sample: t4 Metric: Inefficiency Buffer: 240

Queue length threshold: 10
0.129197
0.124202

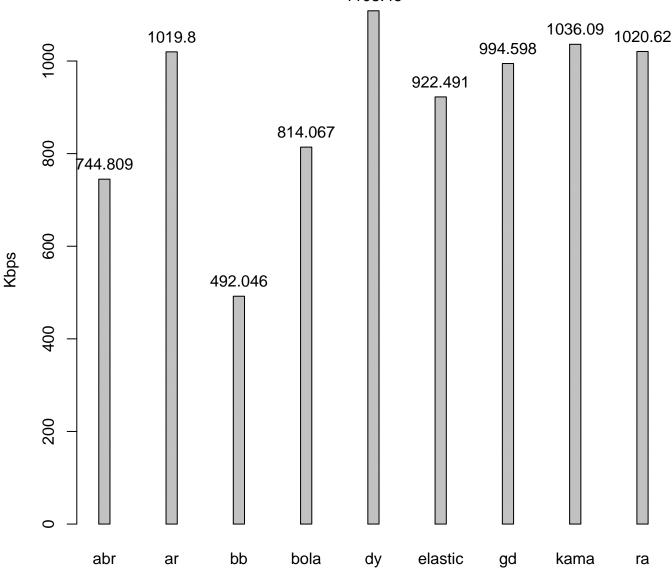


Network profile: p4 Sample: t4 Metric: # quality change Buffer: 240 Queue length threshold: 10

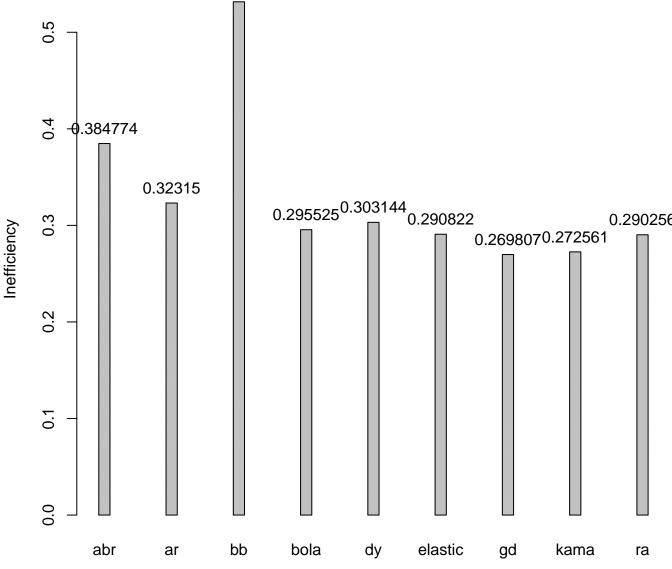


Network profile: p4 Sample: t5 Metric: Avg-Bitrate Buffer: 240

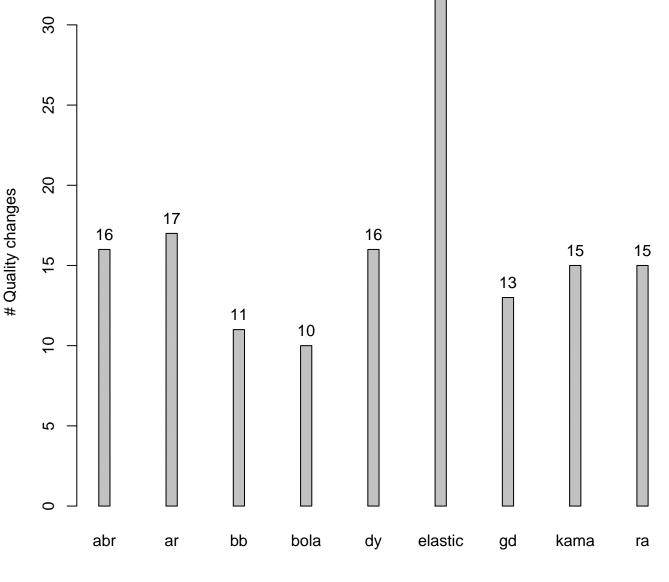
Queue length threshold: 10



Network profile: p4 Sample: t5 Metric: Inefficiency Buffer: 240
Oueue length threshold: 10

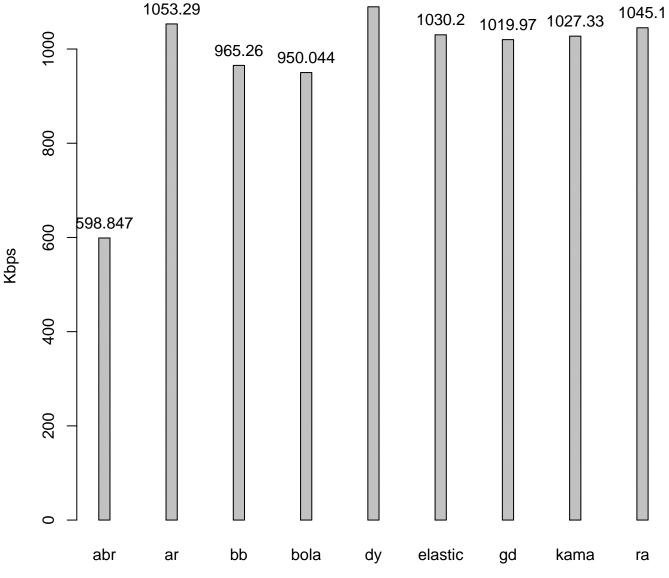


Network profile: p4 Sample: t5 Metric: # quality change Buffer: 240 Queue length threshold: 10

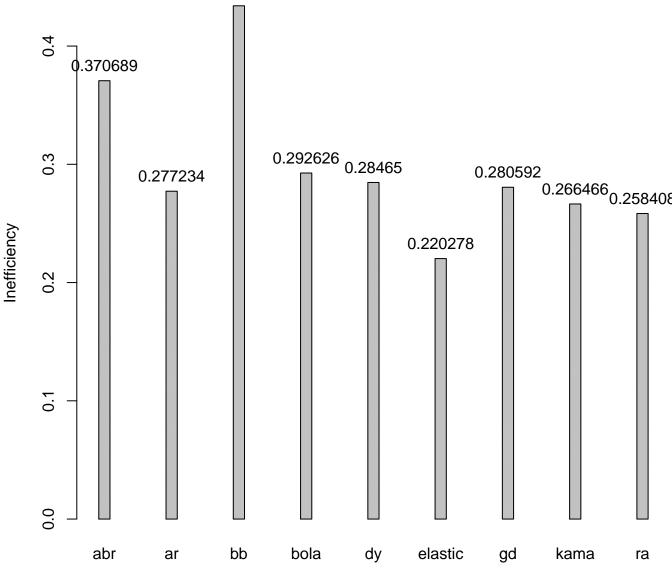


Network profile: p4 Sample: t6 Metric: Avg-Bitrate Buffer: 240

Queue length threshold: 10

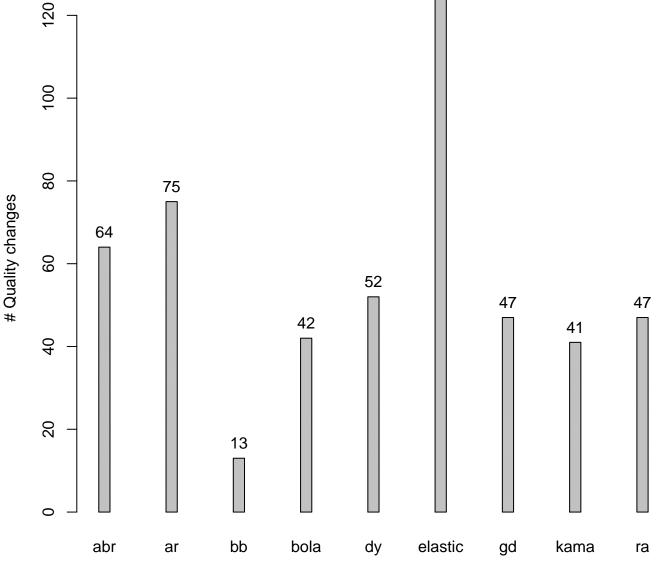


Network profile: p4 Sample: t6 Metric: Inefficiency Buffer: 240 Queue length threshold: 10



Network profile: p4 Sample: t6 Metric: # quality change Buffer: 240

Queue length threshold: 10



Network profile: p4 Sample: t7 Metric: Avg-Bitrate Buffer: 240 Queue length threshold: 10 1191.39 1166.17 1148.25 1147.16 1110.52 1097.53 1000 986.573 843.693 800 009 490.915 400 200

bola

elastic

gd

kama

ra

dy

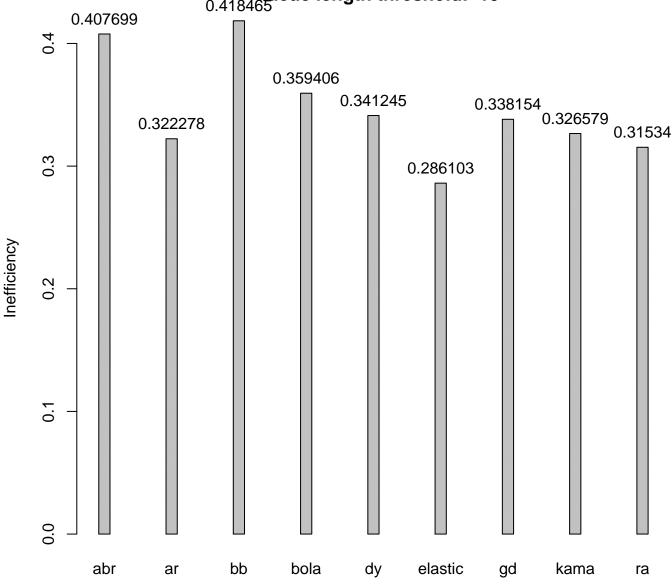
abr

ar

bb

Network profile: p4 Sample: t7 Metric: Inefficiency Buffer: 240

Queue length threshold: 10



Network profile: p4 Sample: t7 Metric: # quality change Buffer: 240

Queue length threshold: 10₉₅

