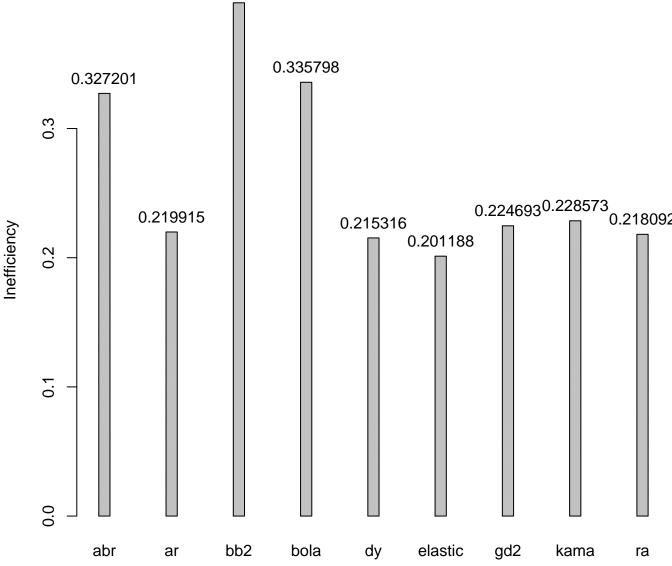


Network profile: p1 Sample: t1 Metric: Inefficiency Buffer: 120
Oueue length threshold: 10



Network profile: p1 Sample: t1 Metric: # quality change Buffer: 120 Queue length threshold: 10 77 71 71 70 65 61 9 50 41 40 30 20 11 6

elastic

gd2

kama

ra

# Quality changes

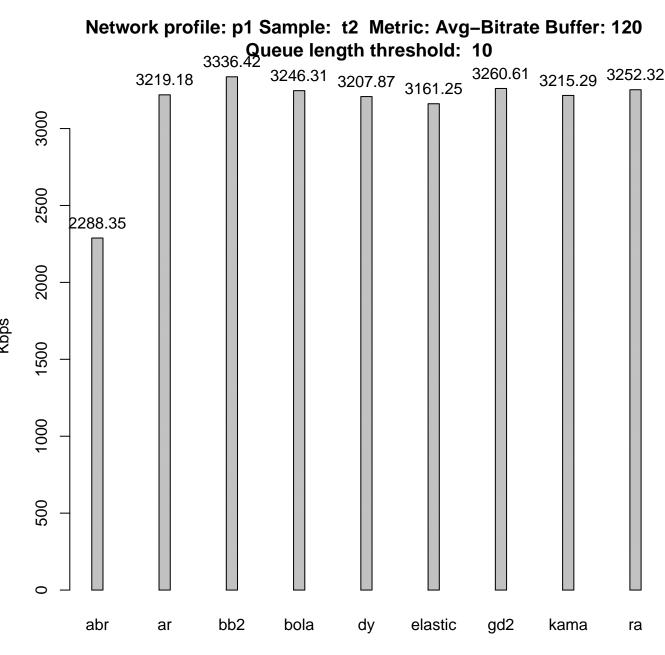
abr

bb2

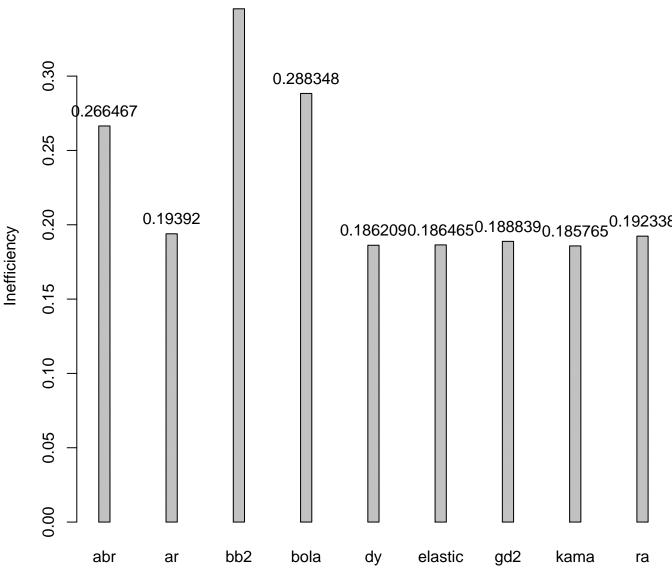
ar

bola

dy



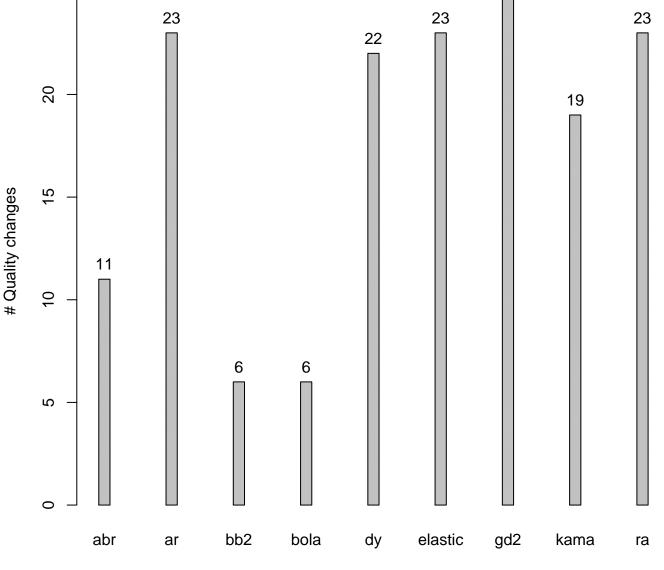
Network profile: p1 Sample: t2 Metric: Inefficiency Buffer: 120 Queue length threshold: 10

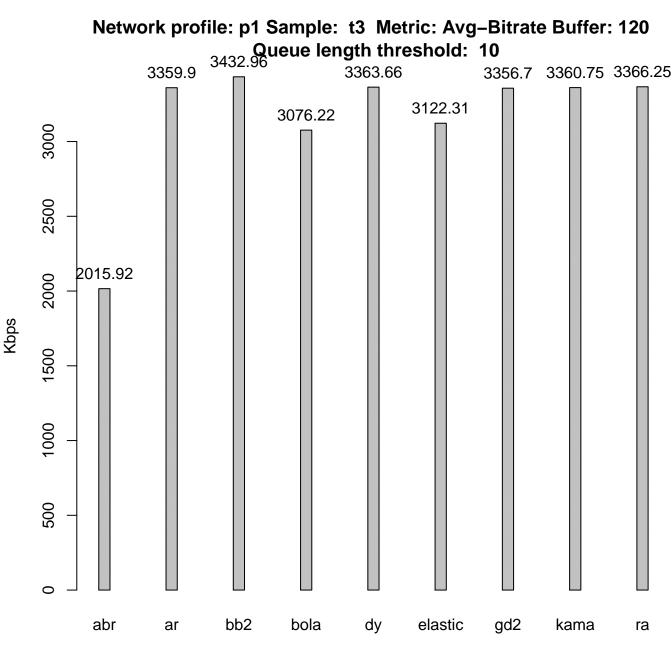


Network profile: p1 Sample: t2 Metric: # quality change Buffer: 120

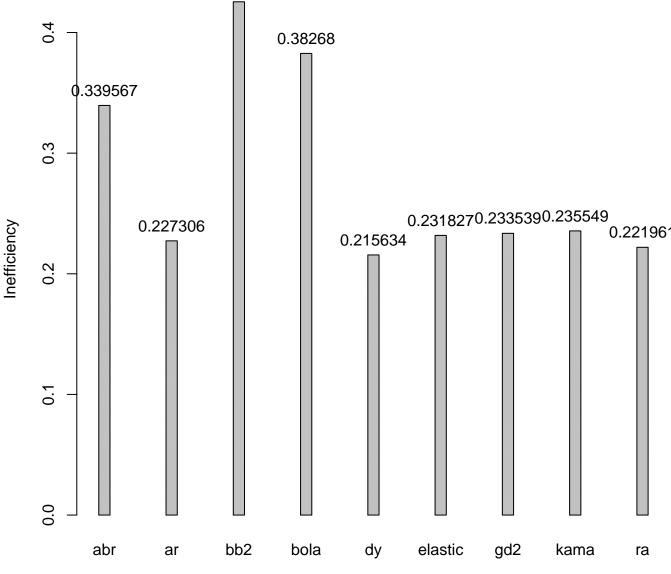
Queue length threshold: 10

25





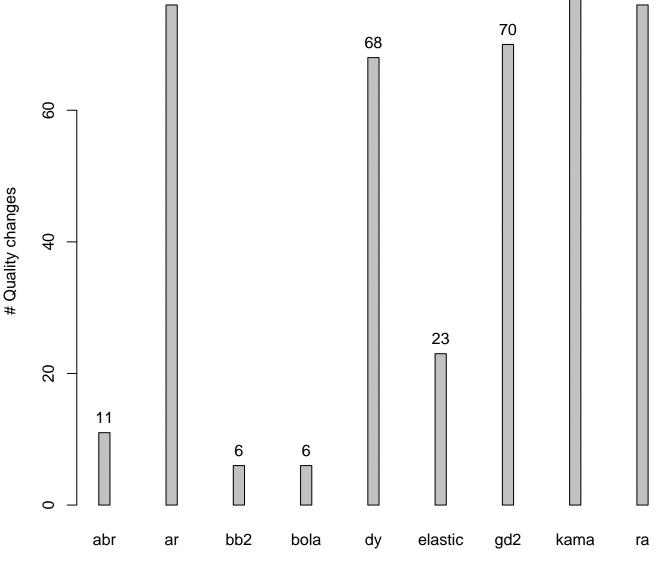
Network profile: p1 Sample: t3 Metric: Inefficiency Buffer: 120 Queue length threshold: 10

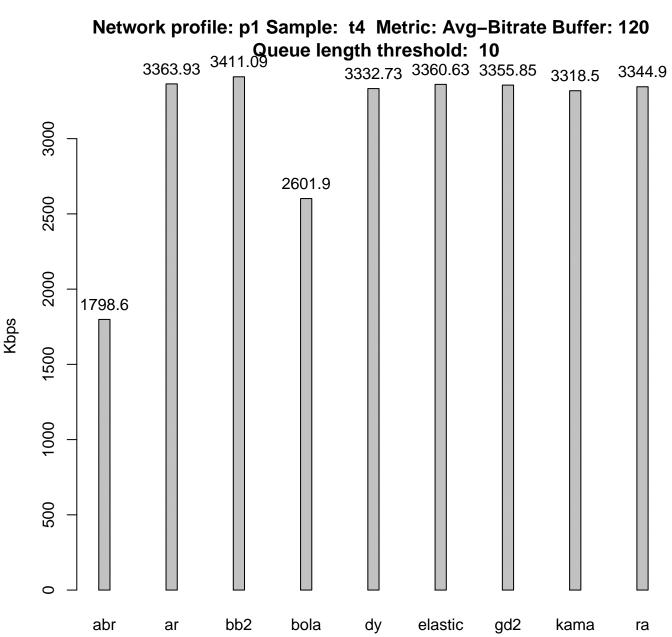


Network profile: p1 Sample: t3 Metric: # quality change Buffer: 120

Queue length threshold: 10

76





Network profile: p1 Sample: t4 Metric: Inefficiency Buffer: 120 Queue length threshold: 10 0.384585 0.356724 0.192542 0.176519 0.173688 0.1649330.167899 0.160177 abr bb2 bola elastic gd2 ar dy kama ra

Inefficiency

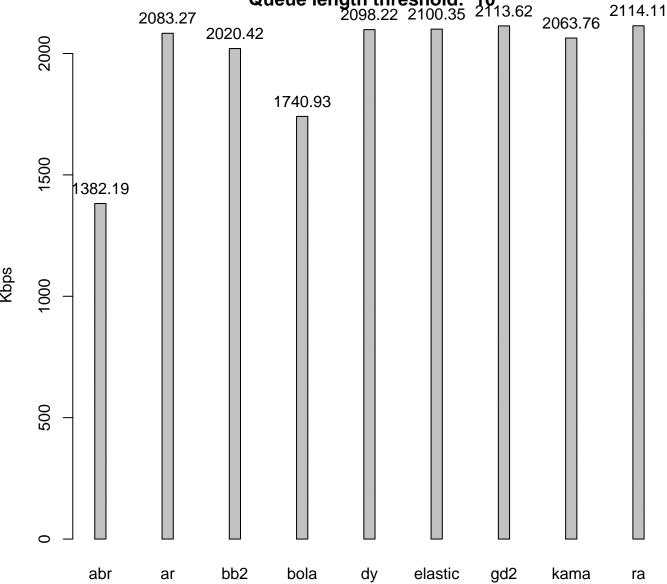
Network profile: p1 Sample: t4 Metric: # quality change Buffer: 120 Queue length threshold: 10 29 25 23 21 21 20 19 15 10 10 9 6 5 2 elastic abr bb2 bola dy gd2 kama

ra

# Quality changes

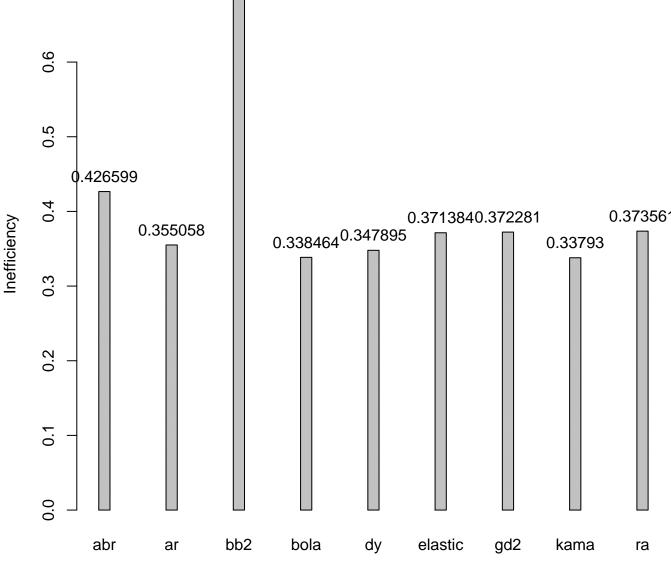
ar

Network profile: p1 Sample: t5 Metric: Avg-Bitrate Buffer: 120 **Queue length threshold: 10**2098.22 2100.35 2113.62 2083.27 2020.42

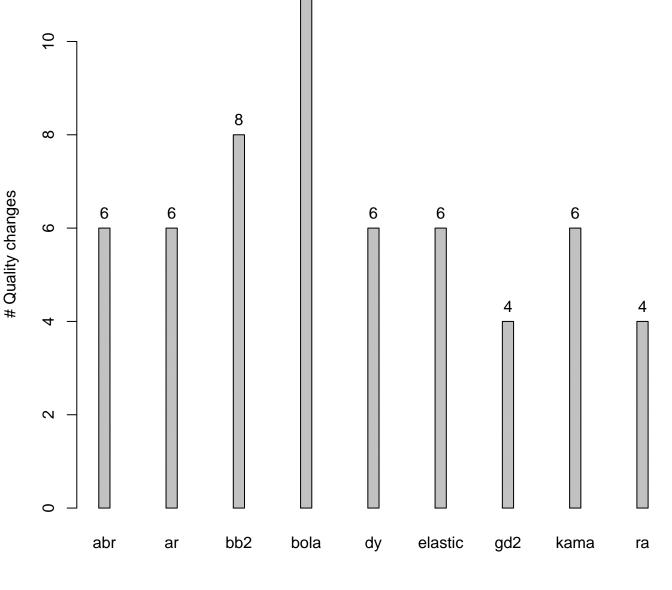


Network profile: p1 Sample: t5 Metric: Inefficiency Buffer: 120

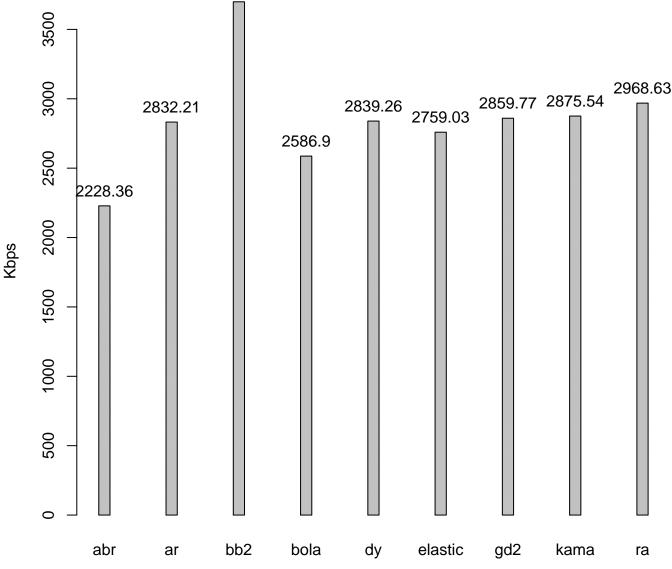
Oueue length threshold: 10



## Network profile: p1 Sample: t5 Metric: # quality change Buffer: 120 Queue length threshold: 10

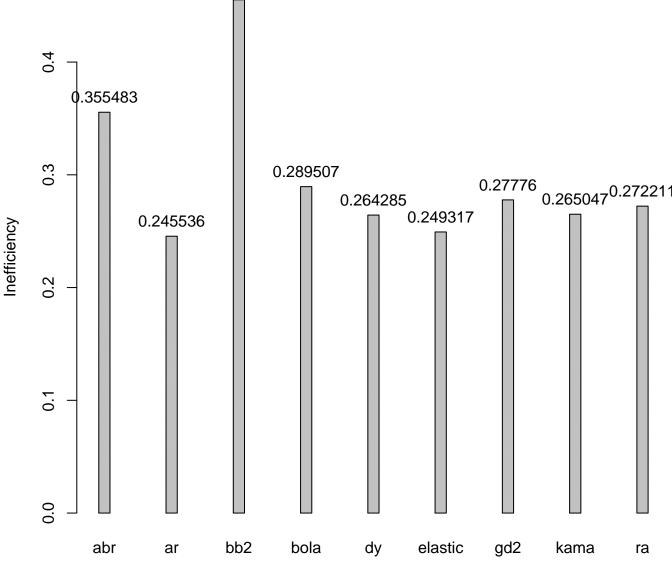


Network profile: p1 Sample: t6 Metric: Avg-Bitrate Buffer: 120 3698.9

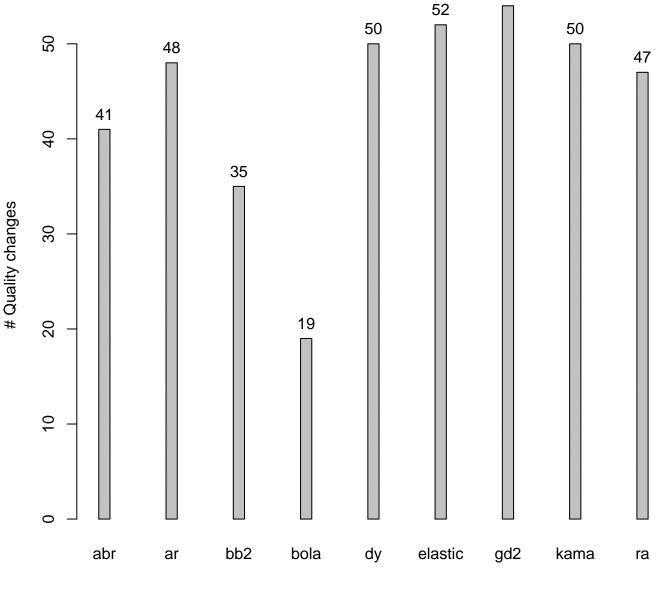


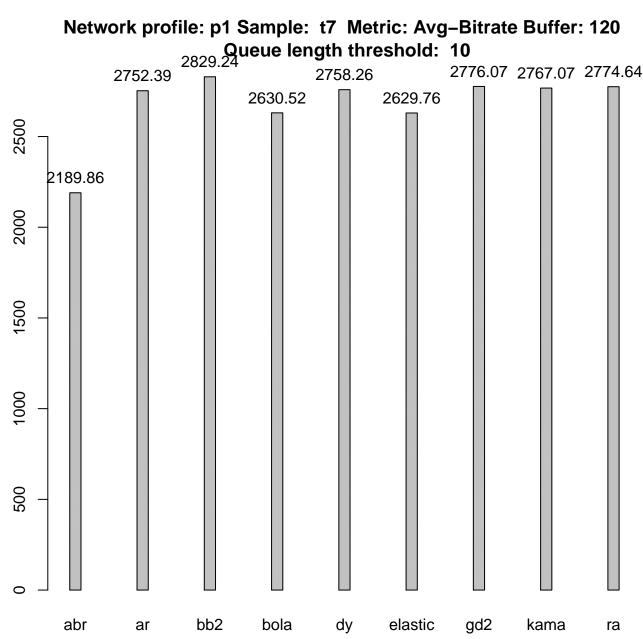
Network profile: p1 Sample: t6 Metric: Inefficiency Buffer: 120

Oueue length threshold: 10



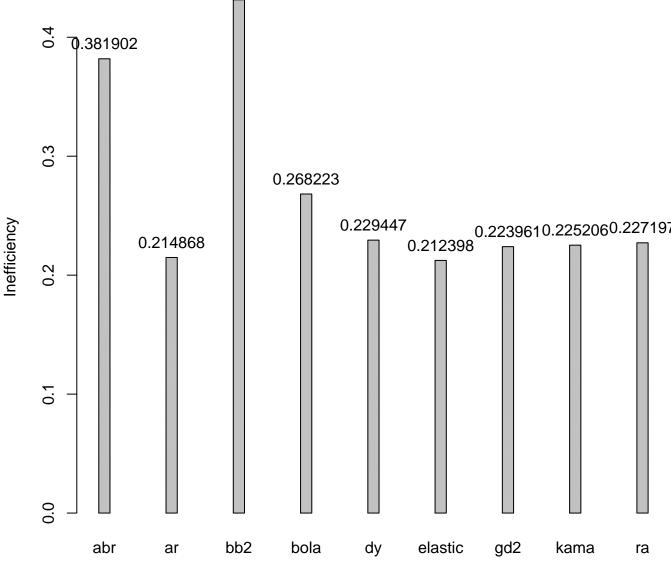
## Network profile: p1 Sample: t6 Metric: # quality change Buffer: 120 Queue length threshold: 10<sub>54</sub>





Network profile: p1 Sample: t7 Metric: Inefficiency Buffer: 120

Oueue length threshold: 10



Network profile: p1 Sample: t7 Metric: # quality change Buffer: 120 Queue length threshold: 10 47 45 41 39 4 37 37 33 30 20 14 12 10

elastic

gd2

kama

ra

# Quality changes

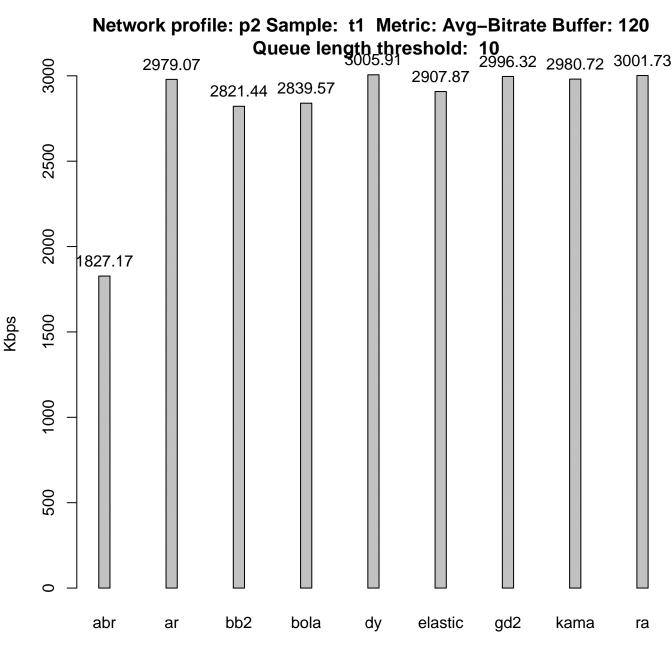
abr

bb2

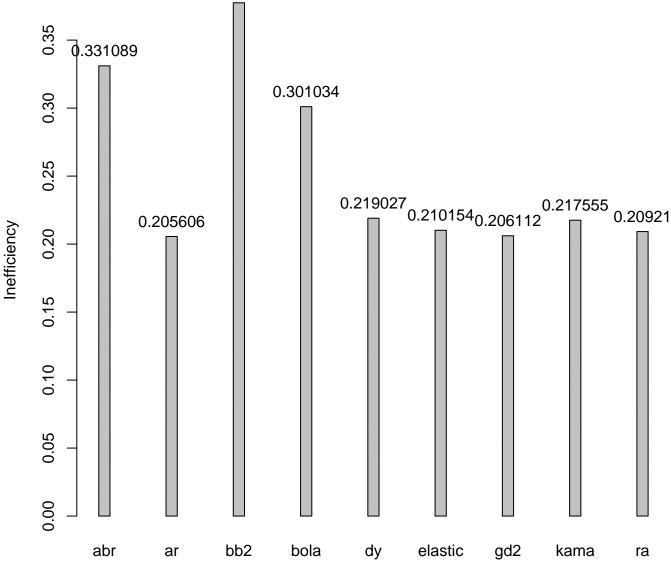
ar

bola

dy



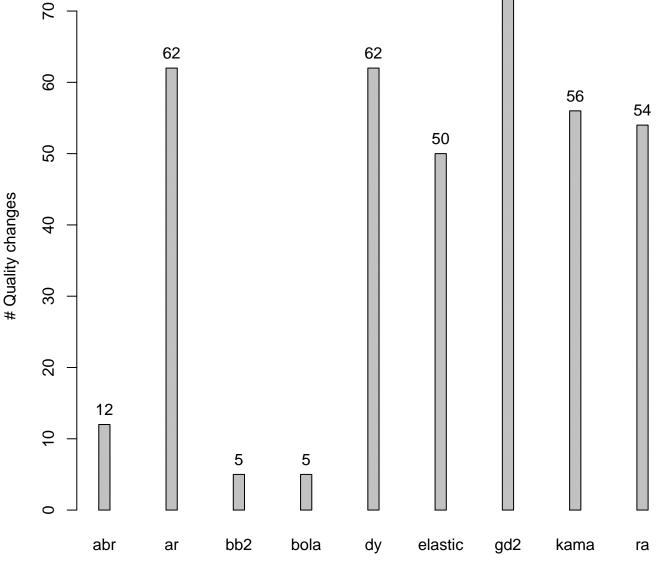
Network profile: p2 Sample: t1 Metric: Inefficiency Buffer: 120
Oueue length threshold: 10

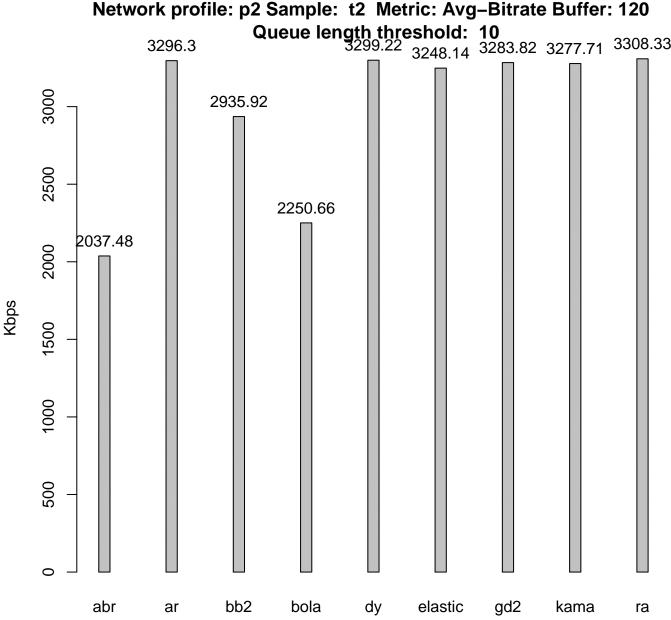


Network profile: p2 Sample: t1 Metric: # quality change Buffer: 120

Queue length threshold: 10

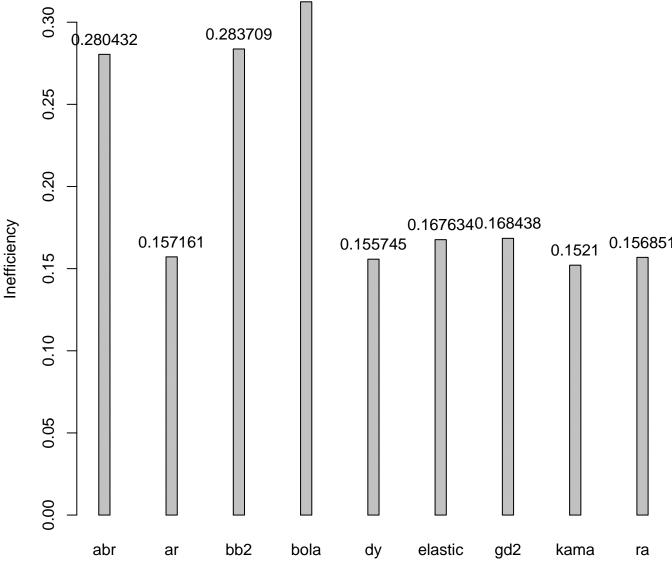
72





Network profile: p2 Sample: t2 Metric: Inefficiency Buffer: 120

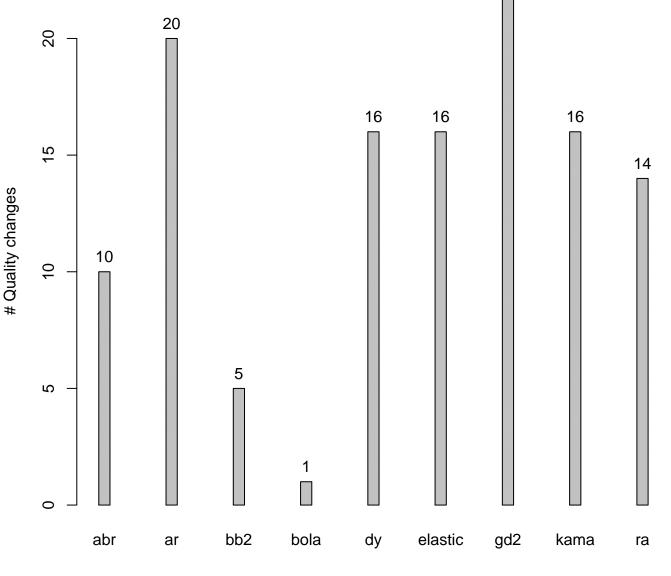
Queue length threshold: 10

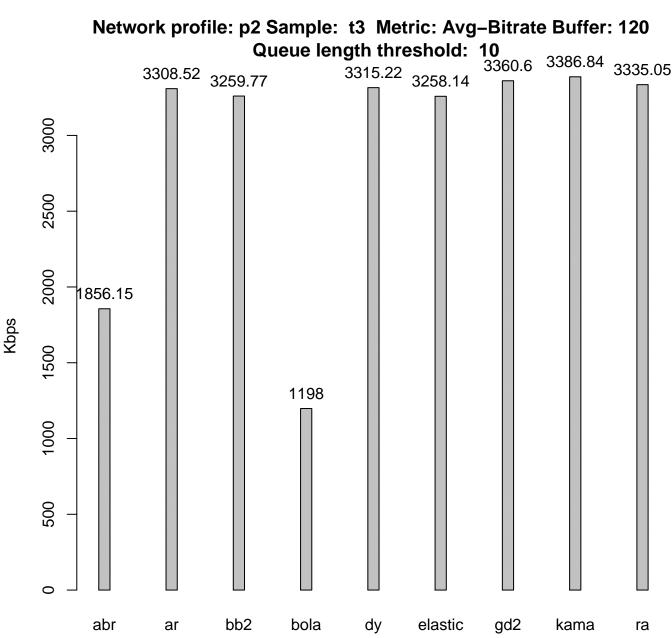


Network profile: p2 Sample: t2 Metric: # quality change Buffer: 120

Queue length threshold: 10

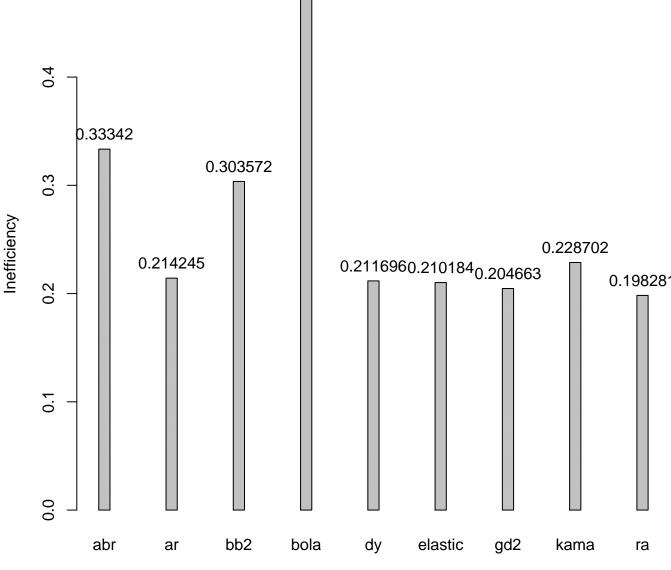
22





Network profile: p2 Sample: t3 Metric: Inefficiency Buffer: 120

Queue length threshold: 10



Network profile: p2 Sample: t3 Metric: # quality change Buffer: 120 Queue length threshold: 10 62 9 58 58 54 52 50 50 40 30 20 13 10 6

elastic

gd2

kama

ra

# Quality changes

abr

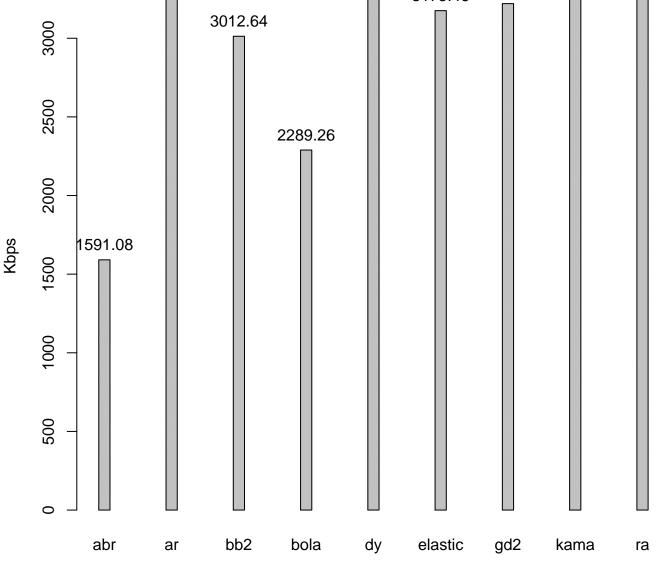
bb2

ar

bola

dy

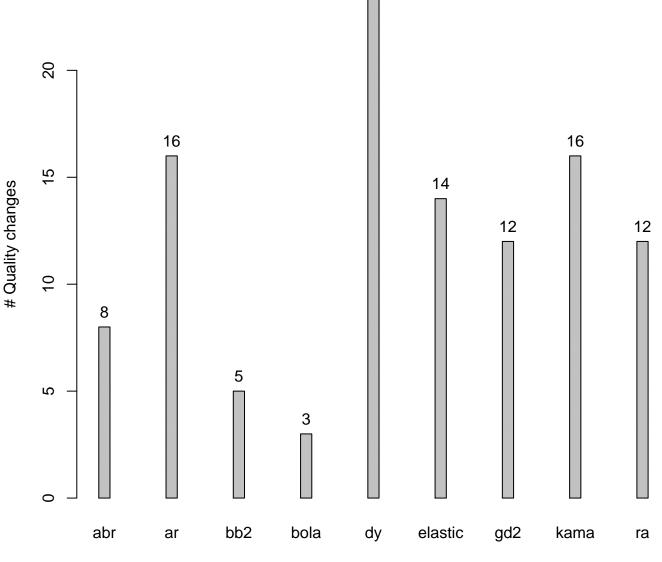
## Network profile: p2 Sample: t4 Metric: Avg-Bitrate Buffer: 120 Queue length threshold: 10 3252.4 3012.64 3012.64

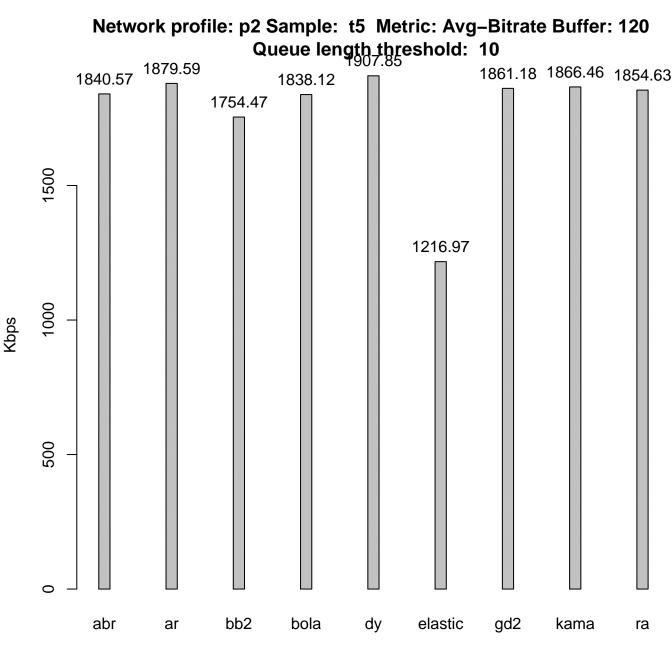


Network profile: p2 Sample: t4 Metric: Inefficiency Buffer: 120 Queue length threshold: 10 0.379506 0.35 0.344636 0.30 0.261634 0.25 Inefficiency 0.20 0.134848<sup>0.13</sup>9613<sup>0.14</sup>1838<sup>0.150</sup>102 0.150597 0.15 0.142588 0.10 0.05 abr bb2 bola elastic gd2 ar dy kama ra

Network profile: p2 Sample: t4 Metric: # quality change Buffer: 120

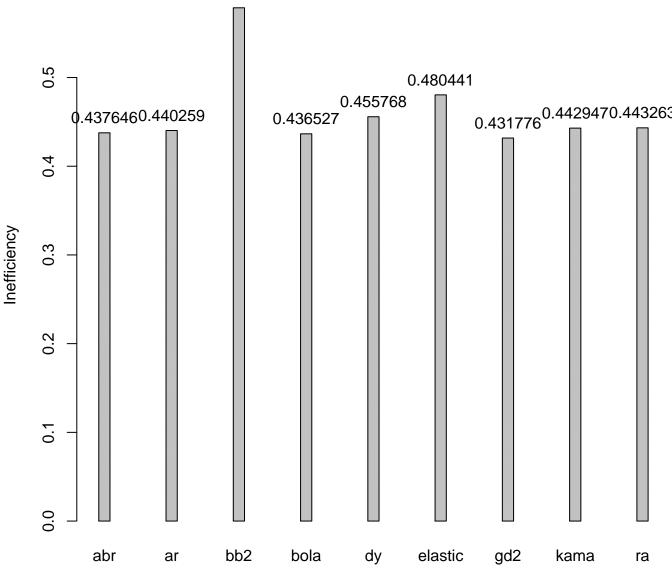
Queue length threshold: 10





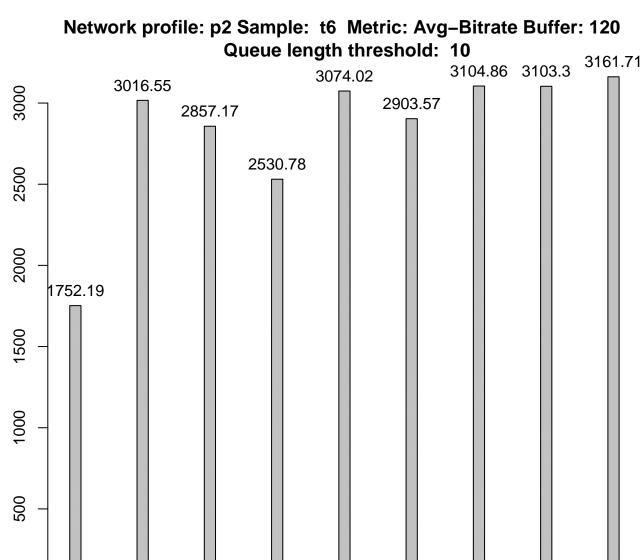
Network profile: p2 Sample: t5 Metric: Inefficiency Buffer: 120

Oueue length threshold: 10



Network profile: p2 Sample: t5 Metric: # quality change Buffer: 120 8 Queue length threshold: 10  $\infty$ 6 6 9 4 4  $\alpha$ elastic abr bb2 bola dy gd2 kama ar ra

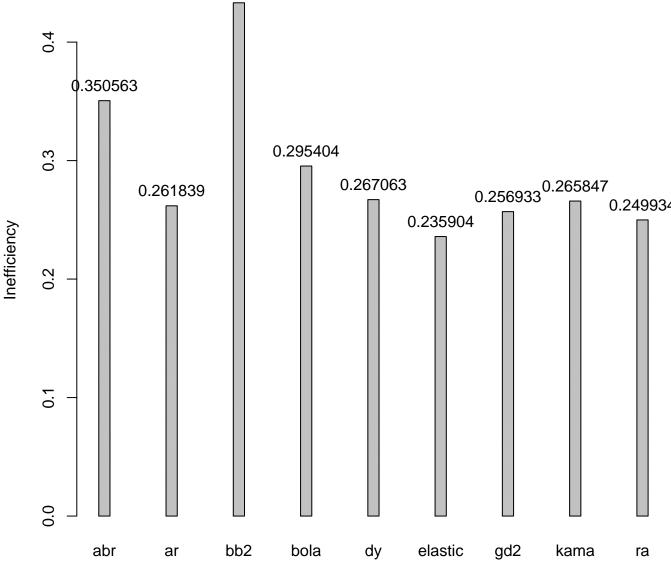
# Quality changes



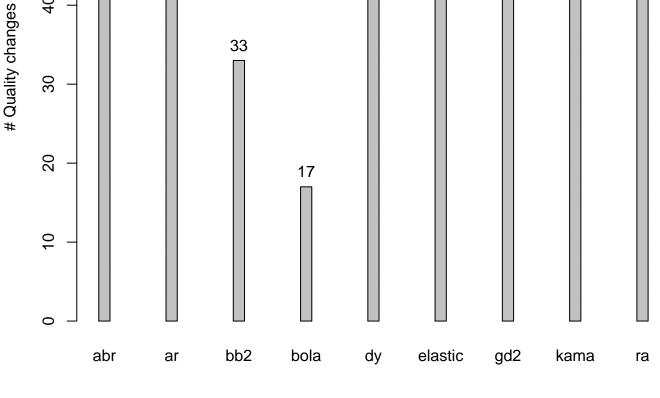
abr ar bb2 bola dy elastic gd2 kama ra

Network profile: p2 Sample: t6 Metric: Inefficiency Buffer: 120

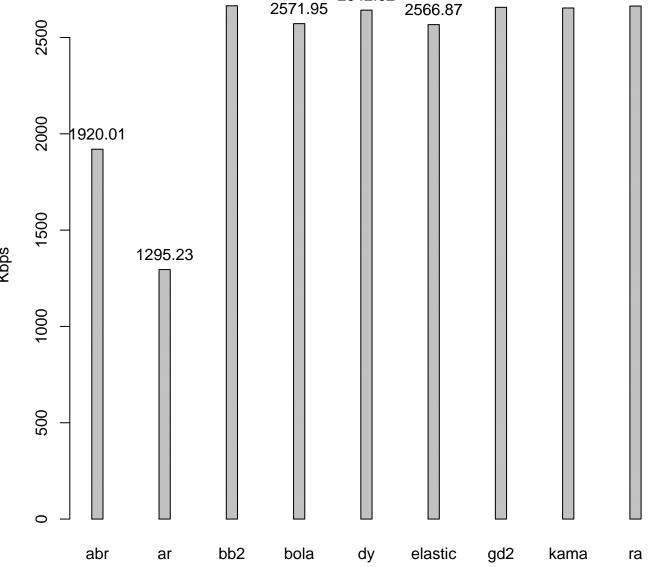
0.43317



Network profile: p2 Sample: t6 Metric: # quality change Buffer: 120 Queue length threshold: 10 



## Network profile: p2 Sample: t7 Metric: Avg-Bitrate Buffer: 120 Queue length threshold: 10 2664.61 2571.95 2566.87 2566.87

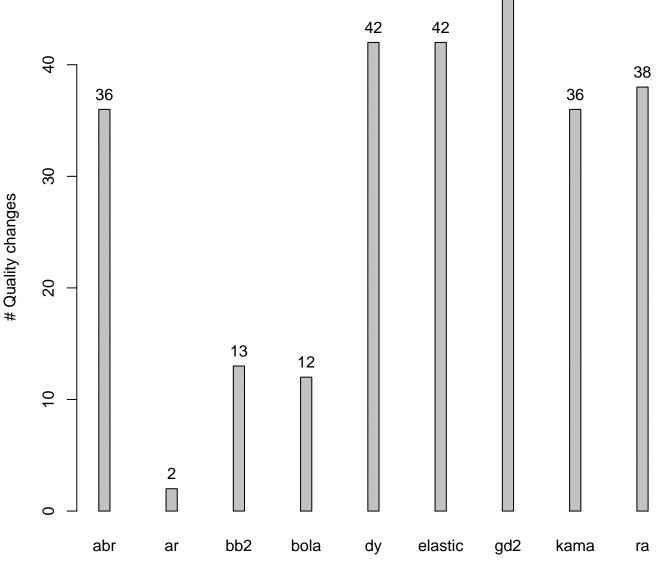


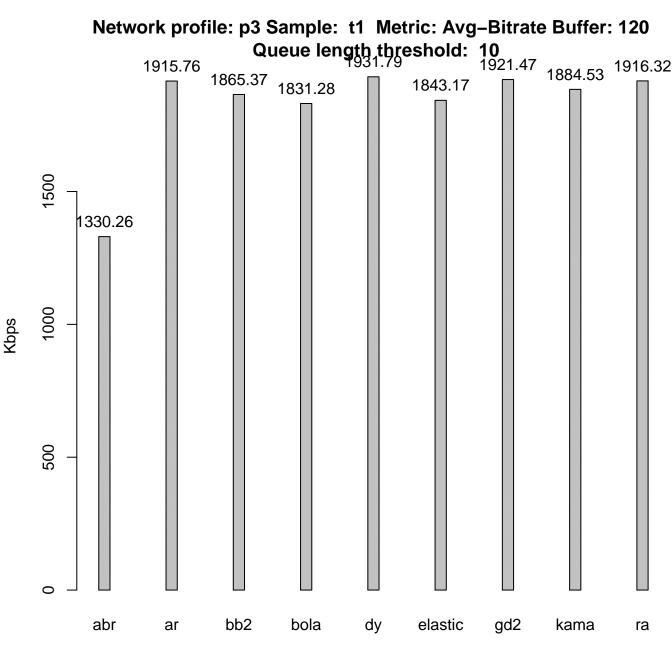
Network profile: p2 Sample: t7 Metric: Inefficiency Buffer: 120 Queue length threshold: 10 0.521481 0.39989 0.353768 0.287041 Inefficiency  $0.23103_{\ 0.222677}0.228147$ 0.223309 0.204852 abr bb2 bola elastic gd2 ar dy kama ra

Network profile: p2 Sample: t7 Metric: # quality change Buffer: 120

Queue length threshold: 10

46

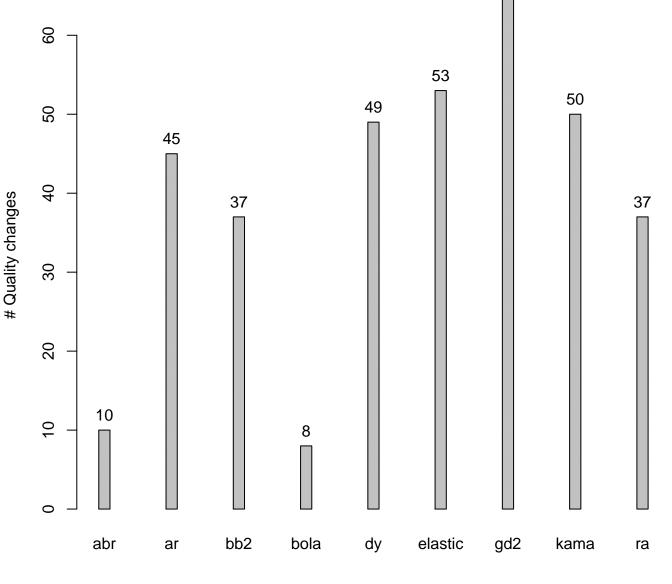


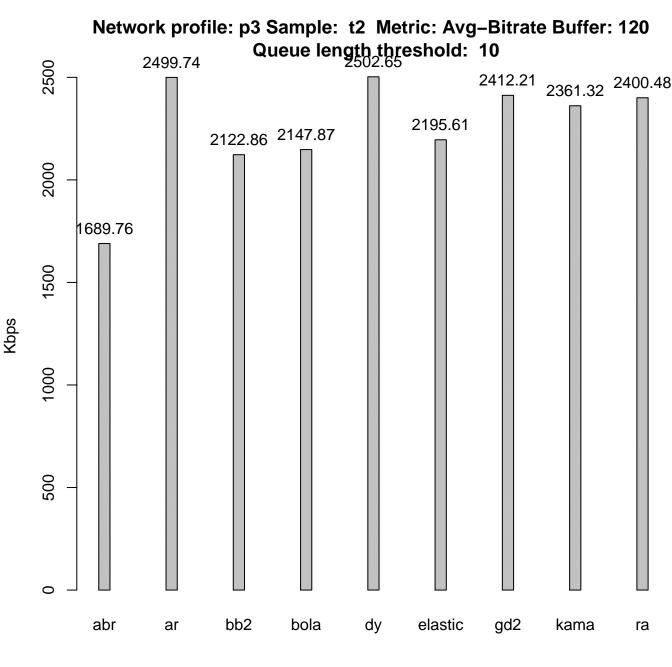


Network profile: p3 Sample: t1 Metric: Inefficiency Buffer: 120 Queue length threshold: 10 0.32994 0.30 0.290304 0.267039 0.25 0.235598 0.227726 0.207618 0.201001 0.205796 0.20 0.186122 Inefficiency 0.10 0.05 abr bb2 bola elastic gd2 ar dy kama ra

Network profile: p3 Sample: t1 Metric: # quality change Buffer: 120

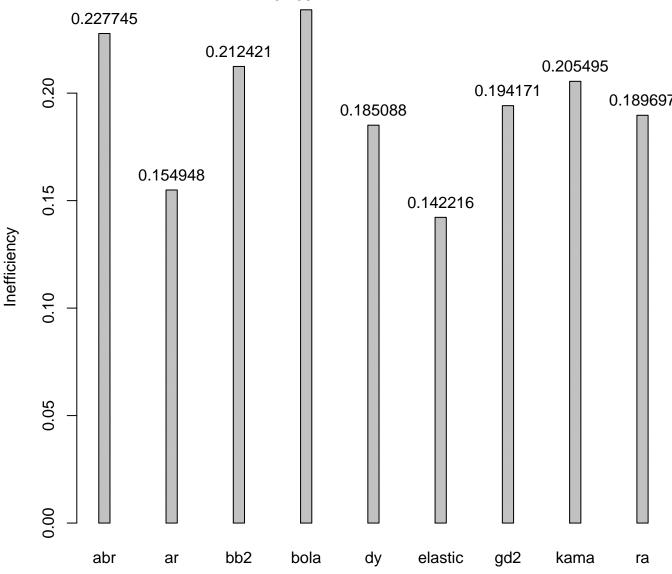
Queue length threshold: 10<sub>65</sub>





Network profile: p3 Sample: t2 Metric: Inefficiency Buffer: 120

Queue length threshold: 10



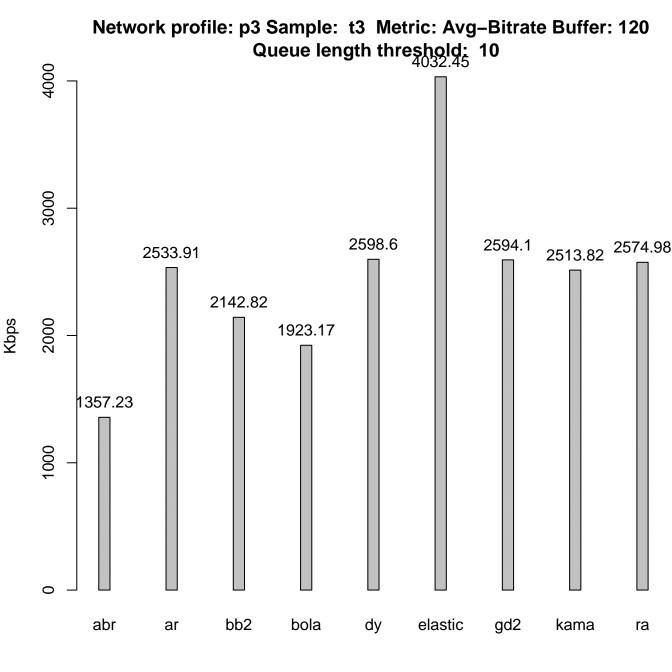
Network profile: p3 Sample: t2 Metric: # quality change Buffer: 120 Queue length threshold: 10 32 31 30 30 28 25 24 23 20 15 10 5 2 elastic abr bb2 bola dy gd2

kama

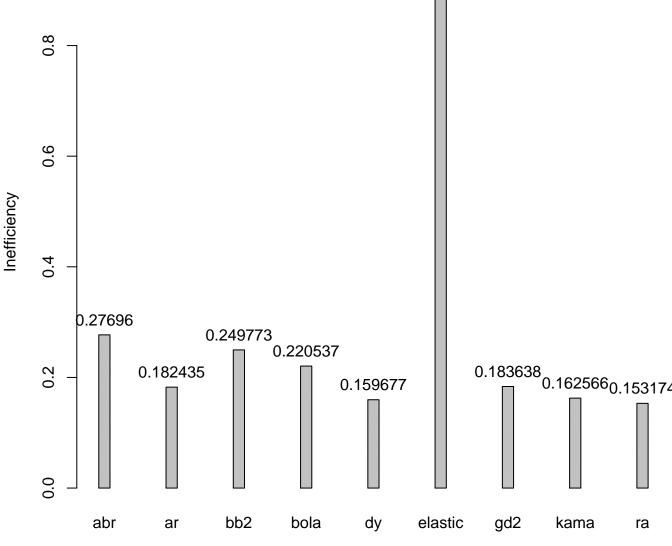
ra

# Quality changes

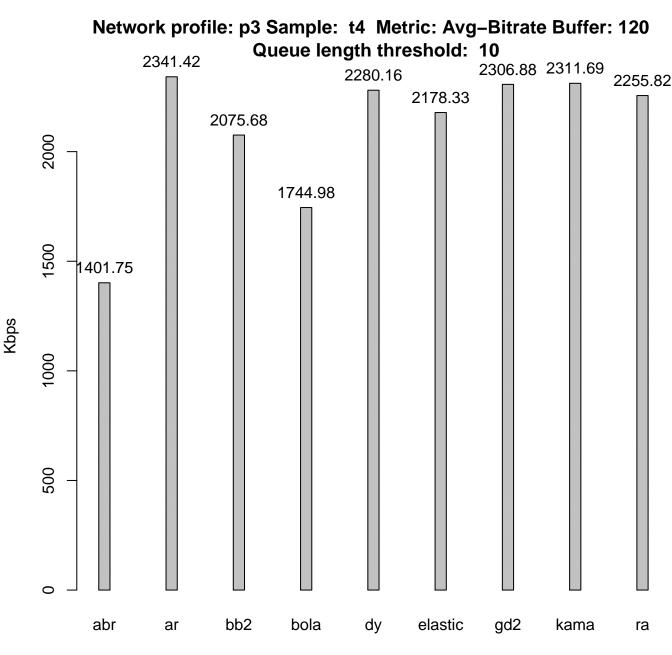
ar



## Network profile: p3 Sample: t3 Metric: Inefficiency Buffer: 120 Queue length threshold: 10 0.927936



Network profile: p3 Sample: t3 Metric: # quality change Buffer: 120 Queue length threshold: 10 100 93 90 80 72 72 # Quality changes 9 4 32 20 2 elastic abr bb2 bola dy gd2 kama ar ra



Network profile: p3 Sample: t4 Metric: Inefficiency Buffer: 120 Queue length threshold: 10 0.30453 0.30 0.258959 0.251104 0.25 0.221933 0.20 0.195486 0.173148 0.168914 Inefficiency 0.161467 0.152275 0.15 0.10 0.05 abr bb2 bola elastic gd2 ar dy kama ra

Network profile: p3 Sample: t4 Metric: # quality change Buffer: 120 Queue length threshold: 10 34 30 29 27 27 25 25 25 20 15 10 9 5 2

elastic

gd2

kama

ra

# Quality changes

abr

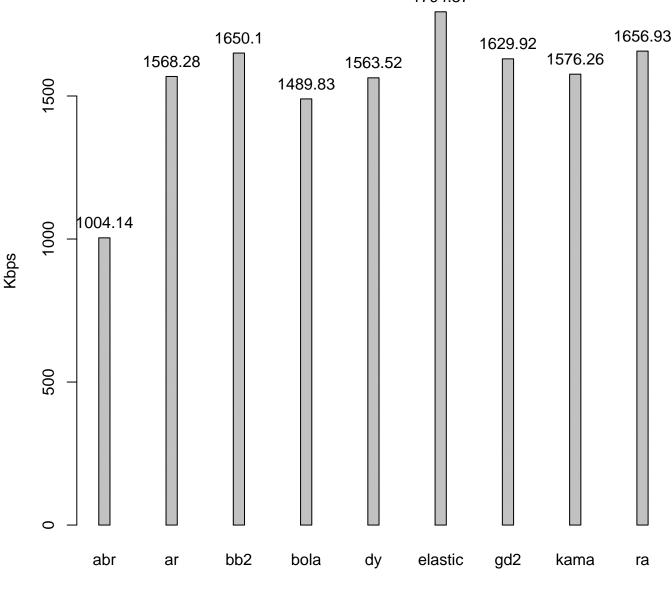
bb2

ar

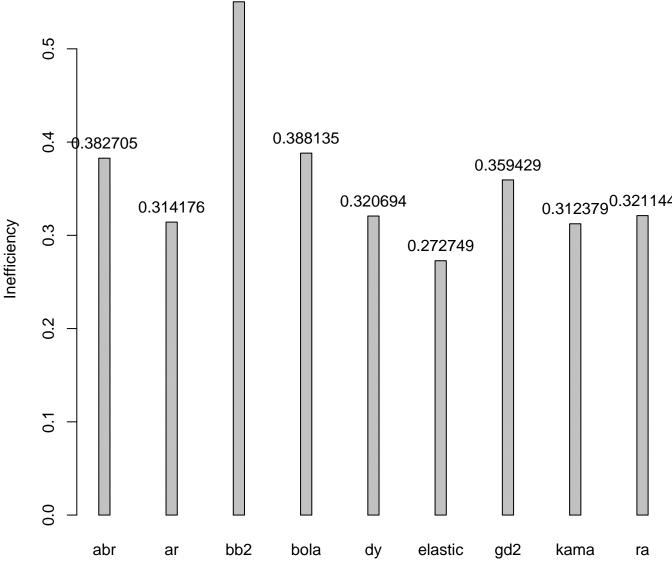
bola

dy

## Network profile: p3 Sample: t5 Metric: Avg-Bitrate Buffer: 120 Queue length threshold: 10

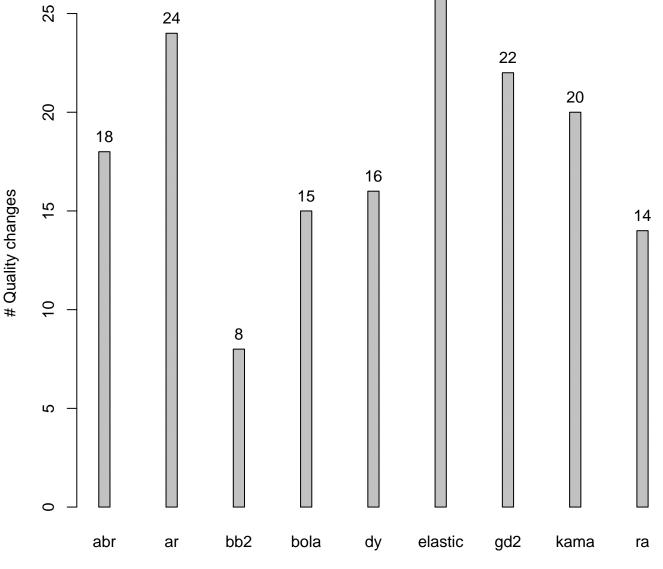


Network profile: p3 Sample: t5 Metric: Inefficiency Buffer: 120
Oueue length threshold: 10



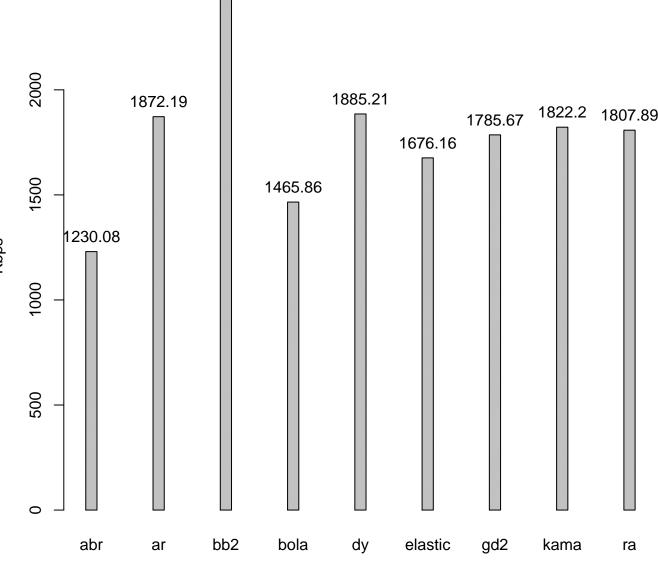
Network profile: p3 Sample: t5 Metric: # quality change Buffer: 120

Queue length threshold: 10



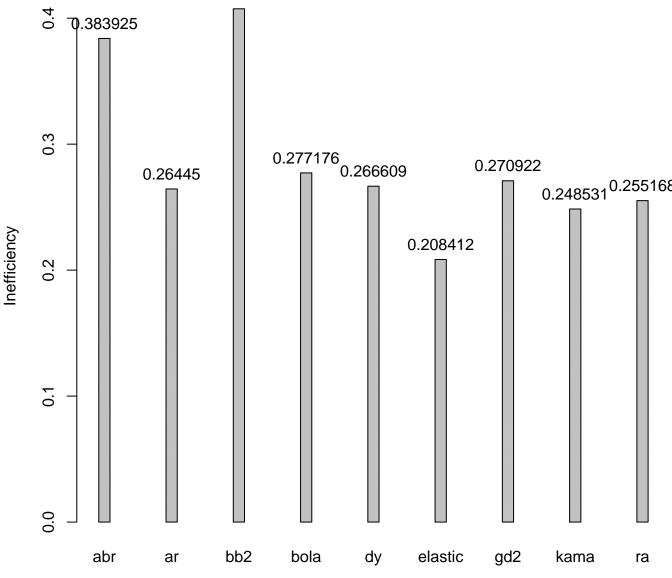
Network profile: p3 Sample: t6 Metric: Avg-Bitrate Buffer: 120

Queue length threshold: 10



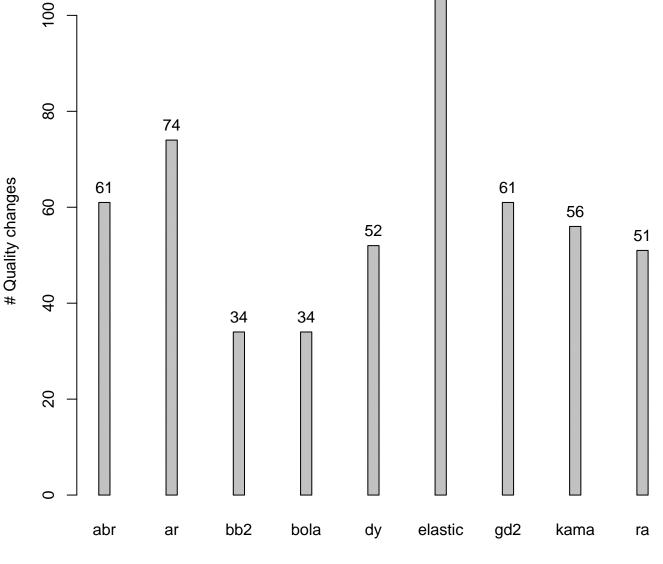
Network profile: p3 Sample: t6 Metric: Inefficiency Buffer: 120

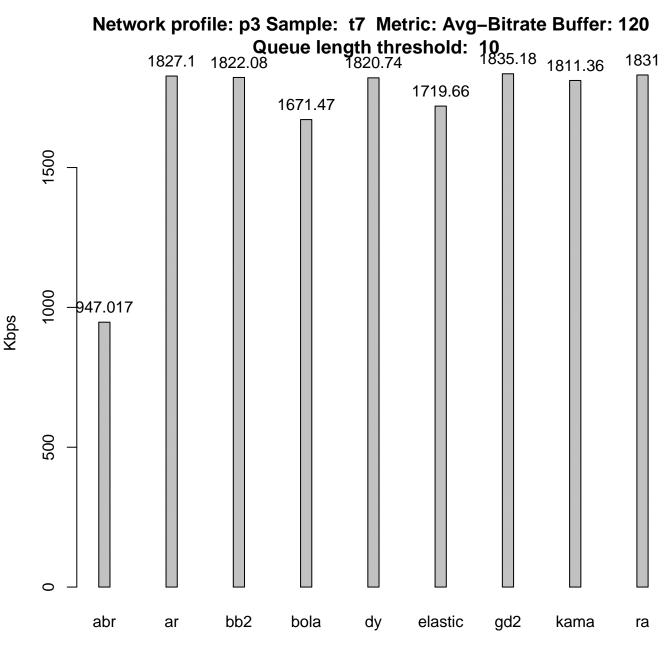
Oueue length threshold: 10



Network profile: p3 Sample: t6 Metric: # quality change Buffer: 120

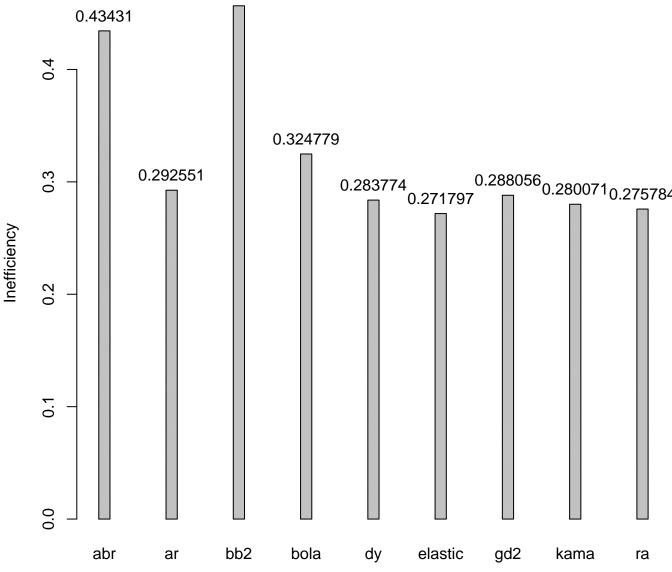
Queue length threshold: 10





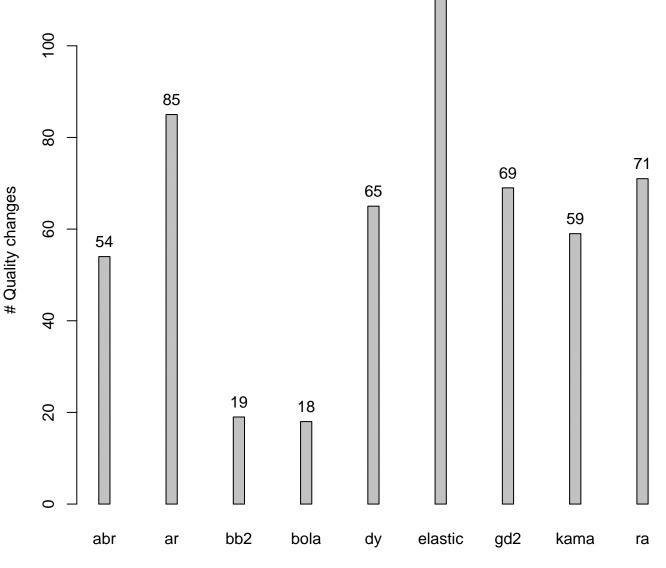
Network profile: p3 Sample: t7 Metric: Inefficiency Buffer: 120

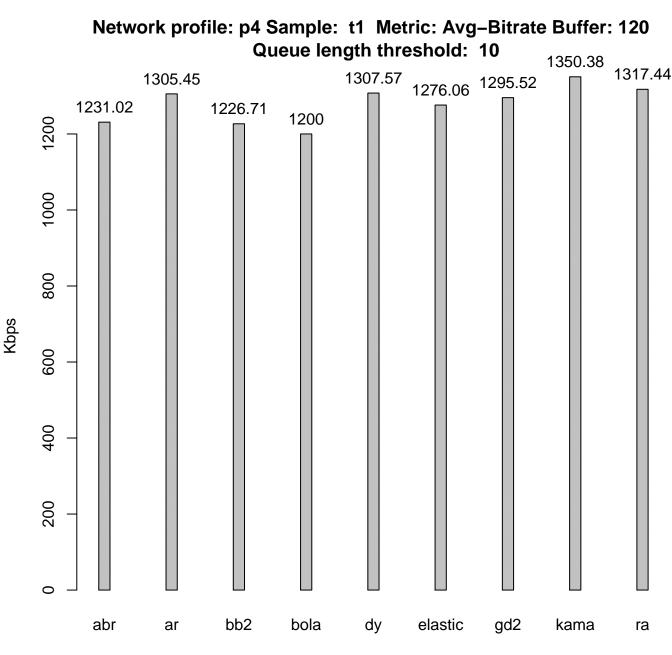
Queue length threshold: 10



Network profile: p3 Sample: t7 Metric: # quality change Buffer: 120

Queue length threshold: 10





Network profile: p4 Sample: t1 Metric: Inefficiency Buffer: 120 Queue length threshold: 10 0.153777 0.151205 0.14817 0.146151 0.145942 0.14 0.137497 0.137074 0.135295 0.124738 0.12 0.10 Inefficiency 0.08 90.0 0.04 0.02 0.00

abr

bb2

ar

bola

dy

elastic

gd2

kama

ra

Network profile: p4 Sample: t1 Metric: # quality change Buffer: 120 Queue length threshold: 10 68 9 20 # Quality changes 40 30 28 24 20 20 20 18 14 10 4 bb2 elastic abr bola dy gd2 kama ar ra

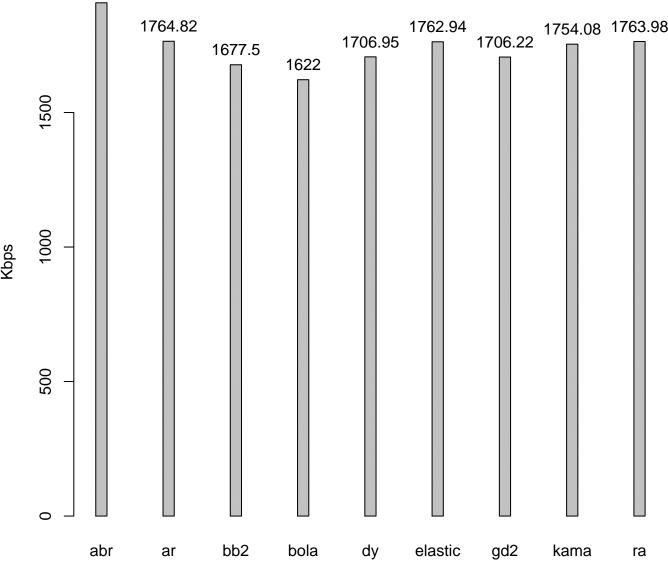
Network profile: p4 Sample: t2 Metric: Avg-Bitrate Buffer: 120

Queue length threshold: 10

1764.82

1706.95

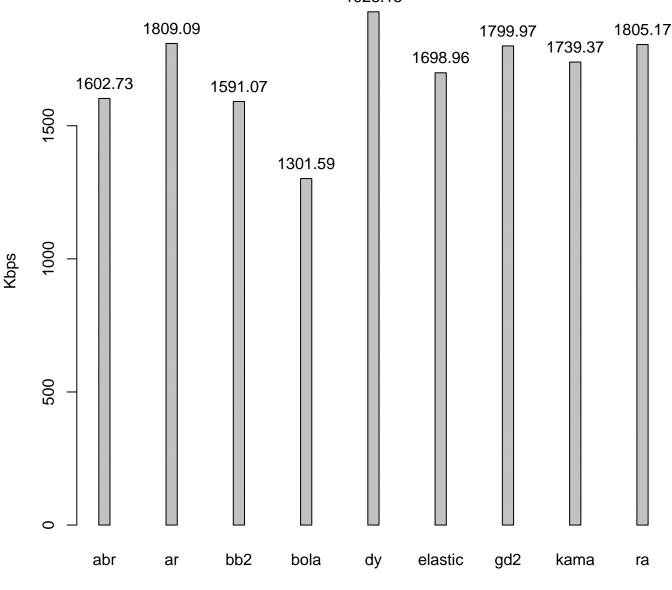
1706.95



Network profile: p4 Sample: t2 Metric: Inefficiency Buffer: 120 Queue length threshold: 10 0.225887 0.197585 0.195112 0.155991 0.148506 0.15 0.128366 Inefficiency 0.106265 0.104409 0.10 0.0729176 0.05 abr bb2 bola dy elastic gd2 ar kama ra

Network profile: p4 Sample: t2 Metric: # quality change Buffer: 120 Queue length threshold: 10 66 9 50 40 # Quality changes 30 20 10 6 6 6 6 bb2 bola elastic abr dy gd2 kama ar ra

## Network profile: p4 Sample: t3 Metric: Avg-Bitrate Buffer: 120 Queue length threshold: 10



Network profile: p4 Sample: t3 Metric: Inefficiency Buffer: 120 Queue length threshold: 10 0.175305 0.172957 0.164718 0.156008 0.125813 0.124199 0.110929 0.0976586 abr bb2 bola elastic gd2

dy

kama

ra

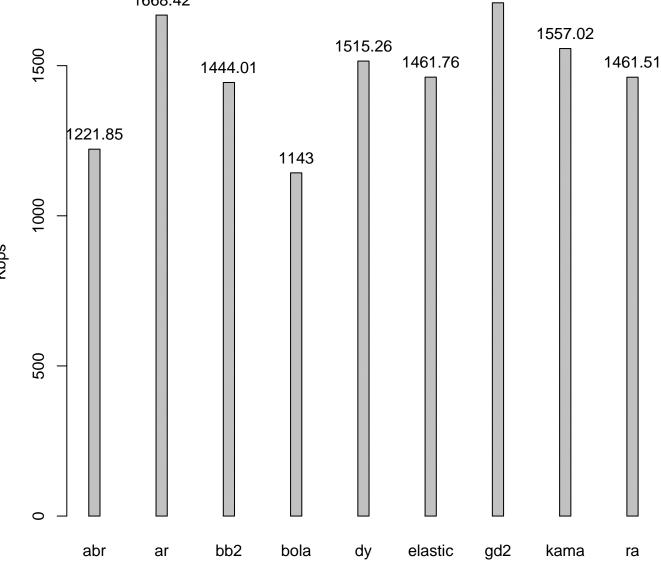
Inefficiency

ar

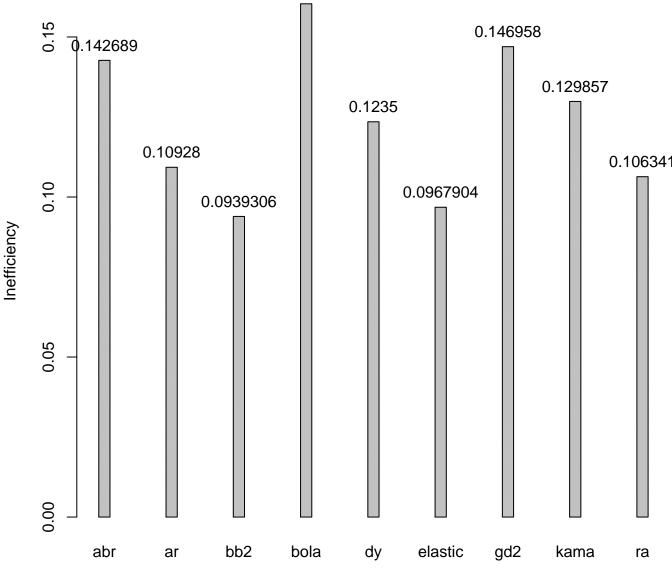
Network profile: p4 Sample: t3 Metric: # quality change Buffer: 120 Queue length threshold: 10 154 140 120 100 96 # Quality changes 80 76 72 66 61 60 57 9 4 20 3 bb2 bola elastic abr dy gd2 kama ar ra

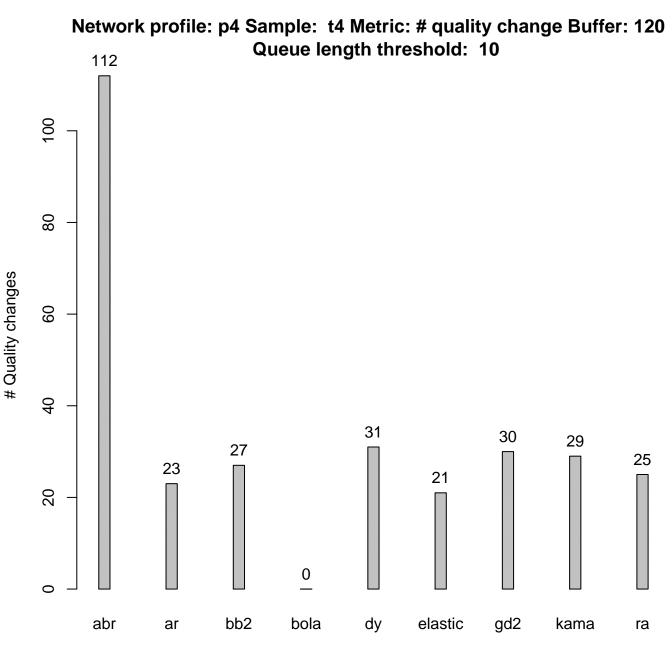
Network profile: p4 Sample: t4 Metric: Avg-Bitrate Buffer: 120

Queue length threshold: 10/709.35



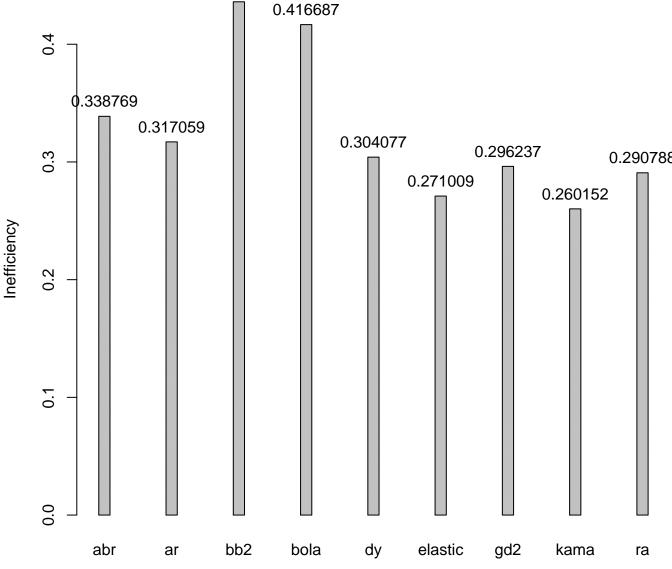
Network profile: p4 Sample: t4 Metric: Inefficiency Buffer: 120
Queue length threshold: 10





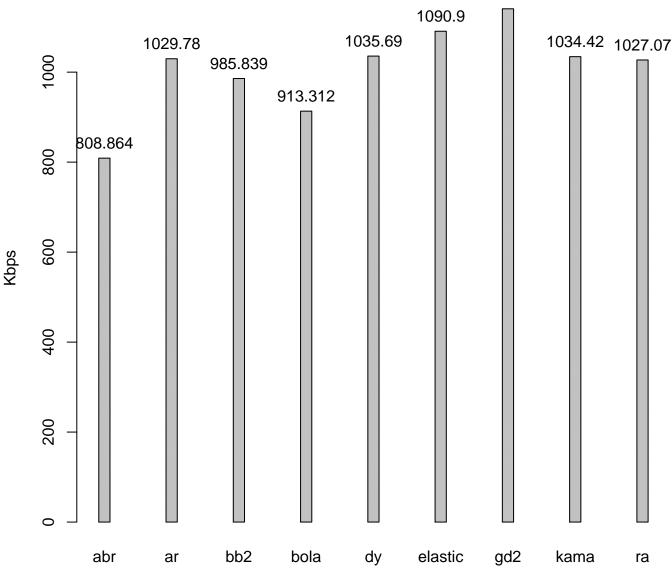
Network profile: p4 Sample: t5 Metric: Avg-Bitrate Buffer: 120 Queue length threshold: 10 1020.99 1035.67 1018.77 1002.74 995.735 1000 962.887 908.045 800 900 532.979 536.216 400 200 abr bb2 bola elastic gd2 ar dy kama ra

Network profile: p4 Sample: t5 Metric: Inefficiency Buffer: 120
Oueue length threshold: 10



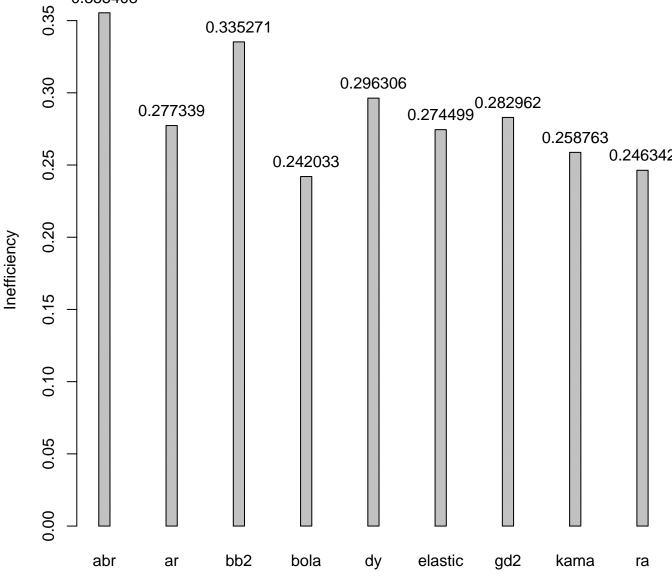
Network profile: p4 Sample: t5 Metric: # quality change Buffer: 120 Queue length threshold: 10 102 80 # Quality changes 9 4 30 21 20 15 15 13 8 5 elastic bb2 bola abr dy gd2 kama ar ra

## Network profile: p4 Sample: t6 Metric: Avg-Bitrate Buffer: 120 Queue length threshold: 10 1140.81

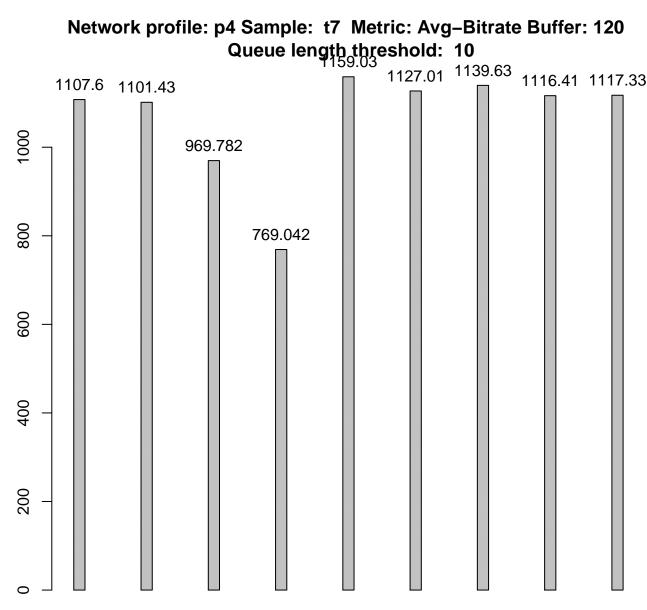


Network profile: p4 Sample: t6 Metric: Inefficiency Buffer: 120

Queue length threshold: 10



Network profile: p4 Sample: t6 Metric: # quality change Buffer: 120 Queue length threshold: 10 722 900 500 # Quality changes 400 300 200 100 75 71 55 47 37 25 22 19 bb2 bola elastic abr dy gd2 kama ar ra



abr

bb2

ar

bola

dy

elastic

gd2

kama

ra

Network profile: p4 Sample: t7 Metric: Inefficiency Buffer: 120 Queue length threshold: 10 0.407686 0.384762 0.36487 0.339593 0.325294 - 0.315063 0.327059 0.325273 0.293305 0.3 Inefficiency abr bb2 bola elastic gd2 ar dy kama ra

Network profile: p4 Sample: t7 Metric: # quality change Buffer: 120 Queue length threshold: 10 526 500 # Quality changes 300 200 94 100 92 80 80 70 69 25 13 bb2 bola elastic abr dy gd2 kama ar ra