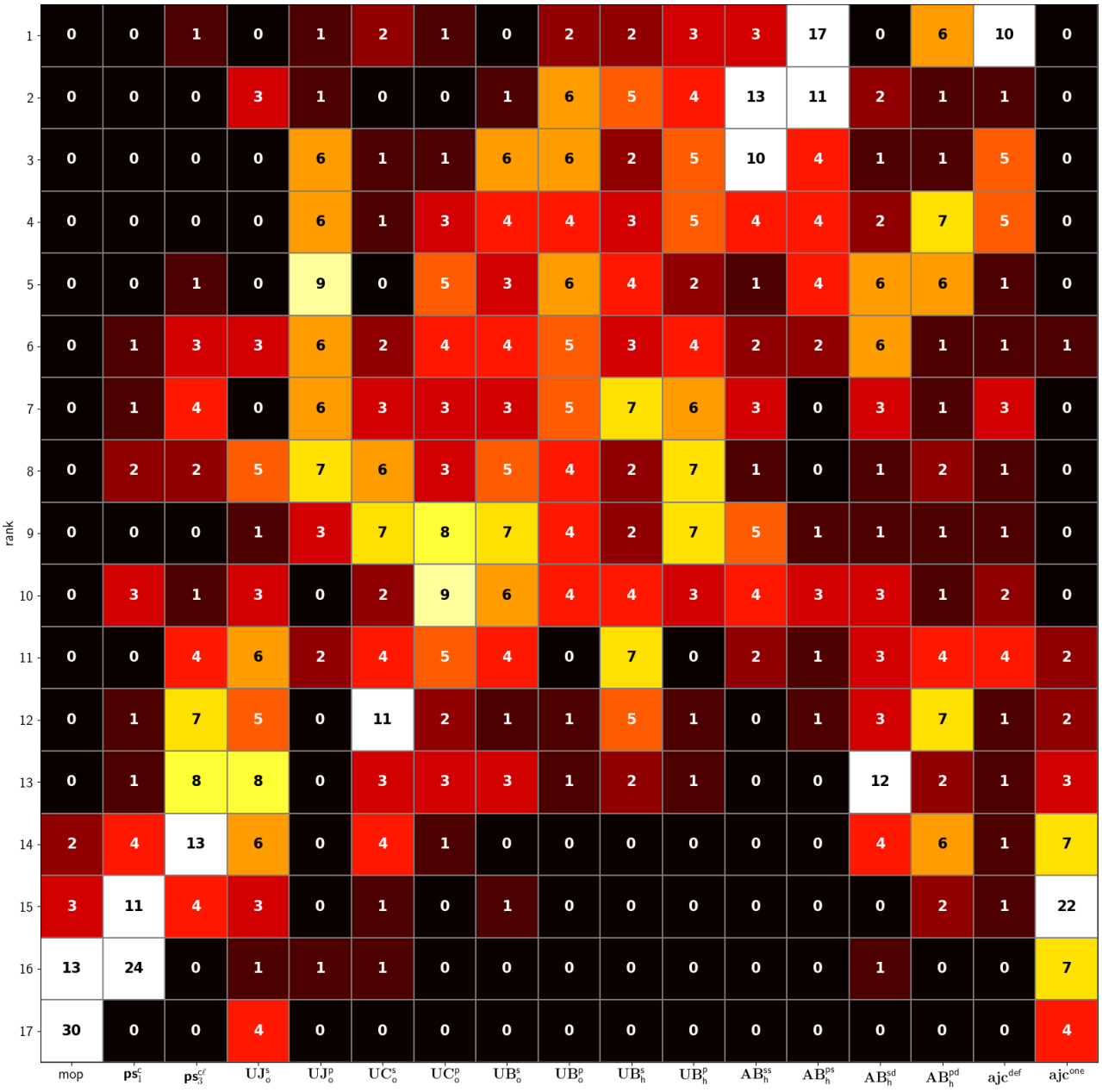

Fig. 1: Rank vs technique

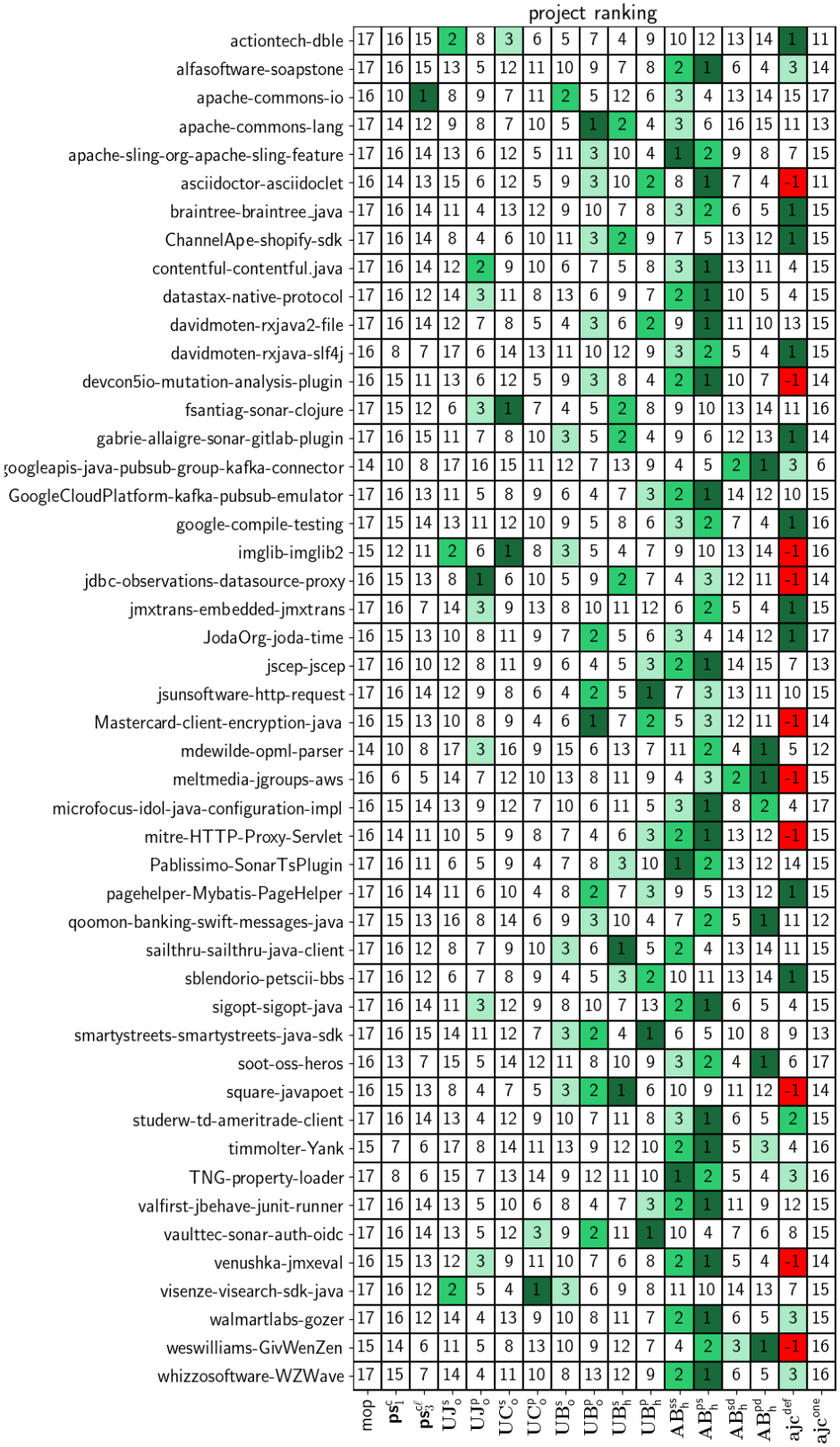

Fig. 2: Project vs technique. Red indicates failure, and the numbers indicate the rank of the technique (1 is the fastest).

TABLE I: raw data for the best technique

project	best agnostic	best specific	ps^{c}_{1} agnostic	ps^{c}_{1} specific	$ps^{c\ell}_{3}$ agnostic	$ps^{c\ell}_{3}$ specific	agnostic tRV	specific tRV	mop agnostic	mop specific	ps^{c}_{1}_t	$ps^{c\ell}_{3}$_t	agnostic_t	specific_t	tRV_t	mop	sha
actiontech-dble	$\mathbf{UJ}^{s}_{o}$	$\mathbf{ajc}^{def}$	5.9	7.2	3.1	3.8	1.3	1.1	6.0	7.4	9105.3	4769.4	1540.4	1257.3	1152.0	9249.9	50.0
alfasoftware-soapstone	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	9.2	7.3	5.3	4.2	1.3	1.7	12.0	9.5	4396.7	2533.5	480.2	604.8	357.3	5748.2	33.0
apache-commons-io	$\mathbf{UB}^{s}_{o}$	$\mathbf{ajc}^{def}$	1.5	0.4	1.0	0.3	0.7	2.7	8.5	2.3	1053.7	684.6	686.7	2557.2	944.5	5834.5	20.0
apache-commons-lang	$\mathbf{UB}^{p}_{o}$	$\mathbf{ajc}^{def}$	1.8	1.4	1.5	1.2	1.0	1.3	3.5	2.7	729.0	612.5	398.0	516.8	396.5	1401.6	20.0
apache-sling-org-apache-sling-feature	$\mathbf{AB}^{ss}_{h}$	$\mathbf{ajc}^{def}$	8.8	6.0	4.9	3.4	1.8	2.6	12.3	8.5	2355.9	1307.4	269.0	390.1	149.5	3316.5	36.0
asciidoctor-asciidoclet	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{one}$	5.4	1.7	3.6	1.1	2.8	8.8	8.2	2.6	2054.4	1371.6	381.5	1212.4	137.8	3136.7	25.0
braintree-braintree_java	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	6.2	8.3	2.1	2.8	2.8	2.1	8.0	10.6	2873.6	983.4	462.1	346.5	165.6	3688.0	50.0
ChannelApe-shopify-sdk	$\mathbf{UB}^{s}_{h}$	$\mathbf{ajc}^{def}$	4.9	4.9	1.8	1.9	1.4	1.4	6.6	6.7	3729.4	1407.0	766.2	755.2	557.8	5094.1	50.0
contentful-contentful.java	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	6.0	4.9	2.5	2.0	1.6	1.9	8.8	7.2	3356.8	1396.9	560.2	689.5	355.4	4947.9	50.0
datastax-native-protocol	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	5.8	4.5	1.8	1.4	1.3	1.7	10.3	8.0	1967.8	624.3	341.6	440.9	253.8	3528.2	50.0
davidmoten-rxjava2-file	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	7.0	4.3	2.3	1.4	1.8	2.9	7.2	4.4	1981.5	648.3	283.3	459.0	158.5	2037.9	32.0
davidmoten-rxjava-slf4j	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	1.8	1.9	1.6	1.6	2.7	2.6	2.5	2.6	590.8	524.4	330.9	318.8	121.6	820.8	50.0
devcon5io-mutation-analysis-plugin	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{one}$	7.2	1.8	1.8	0.5	1.3	5.2	10.4	2.7	3795.7	951.0	526.8	2056.9	398.5	5467.5	50.0
fsantiag-sonar-clojure	$\mathbf{UC}^{s}_{o}$	$\mathbf{ajc}^{def}$	3.6	2.6	1.5	1.1	1.6	2.2	5.5	4.1	78.5	33.0	21.9	29.7	13.7	120.5	8.0
gabrie-allaigre-sonar-gitlab-plugin	$\mathbf{UB}^{s}_{h}$	$\mathbf{ajc}^{def}$	3.7	4.0	1.9	2.0	1.7	1.5	4.9	5.3	3626.8	1863.5	992.4	915.7	596.6	4850.6	50.0
googleapis-java-pubsub-group-kafka-connector	$\mathbf{AB}^{pd}_{h}$	$\mathbf{ajc}^{def}$	6.0	3.6	5.5	3.3	3.0	5.1	8.0	4.8	1715.7	1570.0	284.8	477.4	94.1	2273.5	19.0
GoogleCloudPlatform-kafka-pubsub-emulator	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	3.5	2.1	2.0	1.2	1.4	2.3	6.4	3.8	1060.8	625.9	305.4	511.0	220.3	1940.9	14.0
google-compile-testing	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	3.3	3.6	2.4	2.6	2.1	1.9	4.7	5.2	1653.7	1204.1	504.9	459.8	241.3	2380.1	50.0
imglib-imglib2	$\mathbf{UC}^{s}_{o}$	$\mathbf{ajc}^{one}$	1.4	0.1	1.3	0.1	1.0	10.6	9.7	1.0	84.5	78.4	60.8	616.0	58.0	587.6	20.0
jdbc-observations-datasource-proxy	$\mathbf{UJ}^{p}_{o}$	$\mathbf{ajc}^{one}$	5.7	1.9	2.0	0.6	1.3	3.9	9.7	3.2	3624.4	1247.7	632.8	1941.3	497.5	6164.0	50.0
jmxtrans-embedded-jmxtrans	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	6.6	8.3	2.0	2.5	2.4	1.9	8.0	10.1	2277.8	695.0	346.5	274.6	146.8	2781.8	50.0
JodaOrg-joda-time	$\mathbf{UB}^{p}_{o}$	$\mathbf{ajc}^{def}$	3.0	4.1	2.1	2.9	1.1	0.8	5.1	7.0	1457.1	1024.3	483.4	354.8	458.2	2475.2	50.0
jscep-jscep	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	2.0	1.8	1.3	1.1	1.0	1.1	2.7	2.4	2188.0	1348.0	1074.6	1235.6	1086.5	2948.4	50.0
jsunsoftware-http-request	$\mathbf{UB}^{p}_{h}$	$\mathbf{ajc}^{def}$	7.7	5.8	3.3	2.5	1.5	2.0	9.9	7.5	1904.0	813.6	247.1	327.7	166.9	2453.1	26.0
Mastercard-client-encryption-java	$\mathbf{UB}^{s}_{o}$	$\mathbf{ajc}^{one}$	6.0	1.2	2.6	0.5	1.4	6.6	29.6	6.1	1641.0	709.4	273.1	1317.0	199.5	8085.9	50.0
mdewilde-opml-parser	$\mathbf{AB}^{pd}_{h}$	$\mathbf{ajc}^{def}$	4.0	1.9	3.5	1.6	4.2	9.0	4.9	2.2	780.8	673.0	194.1	419.2	46.5	942.1	18.0
meltmedia-jgroups-aws	$\mathbf{AB}^{pd}_{h}$	$\mathbf{ajc}^{one}$	1.9	0.6	1.6	0.5	5.2	16.8	4.7	1.4	231.3	192.0	121.8	393.5	23.5	569.7	11.0
microfocus-idol-java-configuration-impl	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	2.6	2.0	1.8	1.4	2.5	3.2	6.8	5.5	315.7	216.3	123.4	154.5	48.4	843.3	24.0
mitre-HTTP-Proxy-Servlet	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{one}$	2.2	0.9	1.5	0.6	1.1	2.8	3.1	1.3	1464.9	1022.7	667.2	1635.5	588.8	2088.6	50.0
Pablissimo-SonarTsPlugin	$\mathbf{AB}^{ss}_{h}$	$\mathbf{ajc}^{def}$	9.5	5.1	1.5	0.8	1.1	2.1	15.9	8.5	429.6	70.2	45.4	84.9	41.1	723.1	10.0
pagehelper-Mybatis-PageHelper	$\mathbf{UB}^{p}_{o}$	$\mathbf{ajc}^{def}$	7.0	7.0	2.3	2.3	1.4	1.4	9.1	9.1	4138.4	1346.8	591.2	590.7	421.3	5385.4	50.0
qoomon-banking-swift-messages-java	$\mathbf{AB}^{pd}_{h}$	$\mathbf{ajc}^{def}$	5.7	2.8	2.9	1.4	1.7	3.4	8.8	4.3	1308.8	655.8	227.6	462.4	134.5	1996.5	18.0
sailthru-sailthru-java-client	$\mathbf{UB}^{s}_{h}$	$\mathbf{ajc}^{def}$	10.4	7.8	1.4	1.1	1.4	1.8	19.3	14.4	1032.6	141.1	98.9	133.0	72.3	1912.5	22.0
sblendorio-petscii-bbs	$\mathbf{UB}^{p}_{h}$	$\mathbf{ajc}^{def}$	13.1	13.8	1.3	1.3	1.6	1.5	17.0	18.0	4041.3	389.3	309.3	293.2	190.9	5271.4	50.0
sigopt-sigopt-java	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	9.9	6.9	2.6	1.8	1.4	2.0	14.3	10.0	2856.5	746.0	287.9	412.3	207.5	4103.4	50.0
smartystreets-smartystreets-java-sdk	$\mathbf{UB}^{s}_{h}$	$\mathbf{ajc}^{def}$	17.8	11.6	6.7	4.4	1.6	2.5	27.3	17.8	1650.4	625.0	92.9	142.5	57.8	2533.2	20.0
soot-oss-heros	$\mathbf{AB}^{pd}_{h}$	$\mathbf{ajc}^{def}$	3.4	2.2	2.5	1.6	3.2	4.9	4.4	2.9	310.9	229.6	92.0	142.5	28.8	406.4	13.0
square-javapoet	$\mathbf{UB}^{s}_{h}$	$\mathbf{ajc}^{one}$	5.1	1.8	1.7	0.6	1.3	3.7	7.6	2.7	1010.2	334.2	199.9	570.3	154.7	1527.9	20.0
studerw-td-ameritrade-client	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	6.6	5.8	3.1	2.7	1.9	2.2	8.2	7.1	2673.7	1252.2	402.7	463.3	208.2	3311.4	50.0
timmolter-Yank	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	4.8	2.3	4.2	2.0	1.8	3.9	8.1	3.8	297.2	259.6	61.3	131.9	34.0	494.7	17.0
TNG-property-loader	$\mathbf{AB}^{ss}_{h}$	$\mathbf{ajc}^{def}$	2.4	1.7	1.8	1.3	1.5	2.1	4.3	3.1	95.9	72.7	39.3	55.3	25.9	169.6	15.0
valfirst-jbehave-junit-runner	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	6.4	3.6	2.0	1.1	1.3	2.4	11.6	6.5	939.1	298.5	146.4	263.6	108.9	1700.6	19.0
vaulttec-sonar-auth-oidc	$\mathbf{UB}^{p}_{h}$	$\mathbf{ajc}^{def}$	3.4	2.1	2.8	1.7	2.1	3.4	16.1	9.9	651.6	531.6	193.2	313.7	92.5	3105.2	26.0
venushka-jmxeval	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{one}$	5.9	1.6	3.1	0.8	1.6	5.9	7.8	2.1	685.7	355.8	116.4	434.8	73.5	905.3	21.0
visenze-visearch-sdk-java	$\mathbf{UC}^{p}_{o}$	$\mathbf{ajc}^{def}$	8.8	8.6	1.4	1.4	1.3	1.3	13.9	13.5	2931.2	481.2	332.7	340.2	253.8	4608.2	50.0
walmartlabs-gozer	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	4.5	4.1	1.8	1.7	1.7	1.8	7.9	7.3	2065.2	834.9	461.5	497.8	279.1	3623.1	50.0
weswilliams-GivWenZen	$\mathbf{AB}^{pd}_{h}$	$\mathbf{ajc}^{one}$	3.0	0.8	1.8	0.5	2.8	10.7	3.8	1.0	559.6	328.4	184.4	712.9	66.5	693.1	20.0
whizzosoftware-WZWave	$\mathbf{AB}^{ps}_{h}$	$\mathbf{ajc}^{def}$	3.2	3.0	1.9	1.8	2.0	2.1	4.3	4.1	739.1	434.1	234.1	242.6	117.8	1000.5	50.0
MAX			17.8	13.8	6.7	4.4	5.2	16.8	29.6	18.0	9105.3	4769.4	1540.4	2557.2	1152.0	9249.9	50.0
MIN			1.4	0.1	1.0	0.1	0.7	0.8	2.5	1.0	78.5	33.0	21.9	29.7	13.7	120.5	8.0
AVG			5.5	4.0	2.4	1.7	1.8	3.5	9.1	6.1	1885.7	844.1	364.1	603.3	254.3	2901.0	33.9
MED			5.6	3.3	2.0	1.4	1.6	2.3	8.0	5.2	1645.7	664.4	296.7	450.0	162.0	2464.2	32.5
SUM											90512.4	40518.2	17478.3	28956.2	12204.4	139248.6	1627.0

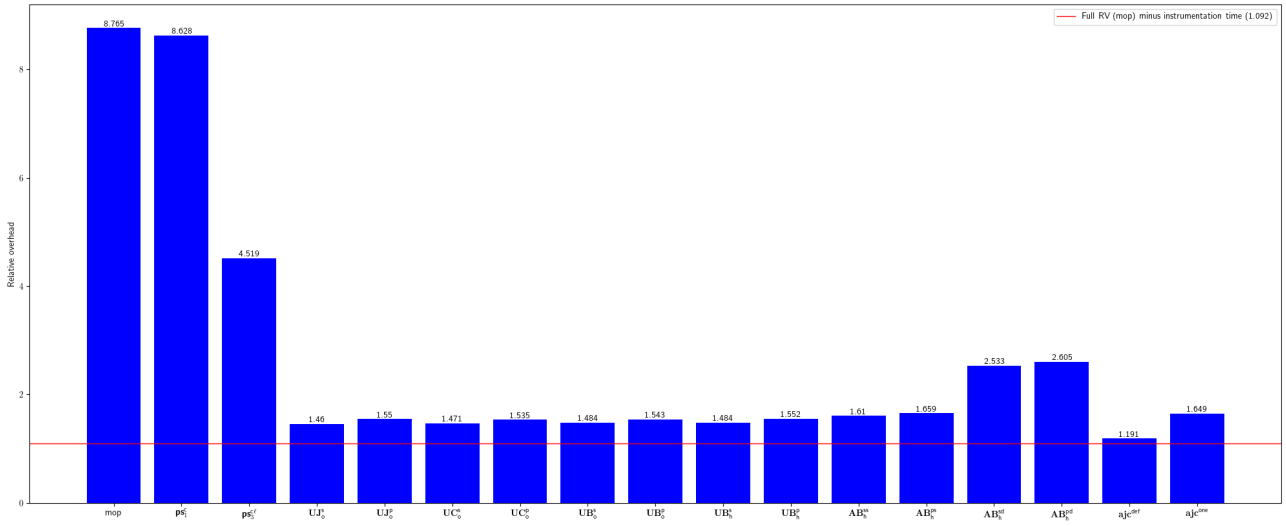

Fig. 3: Relative overhead for actiontech-dble

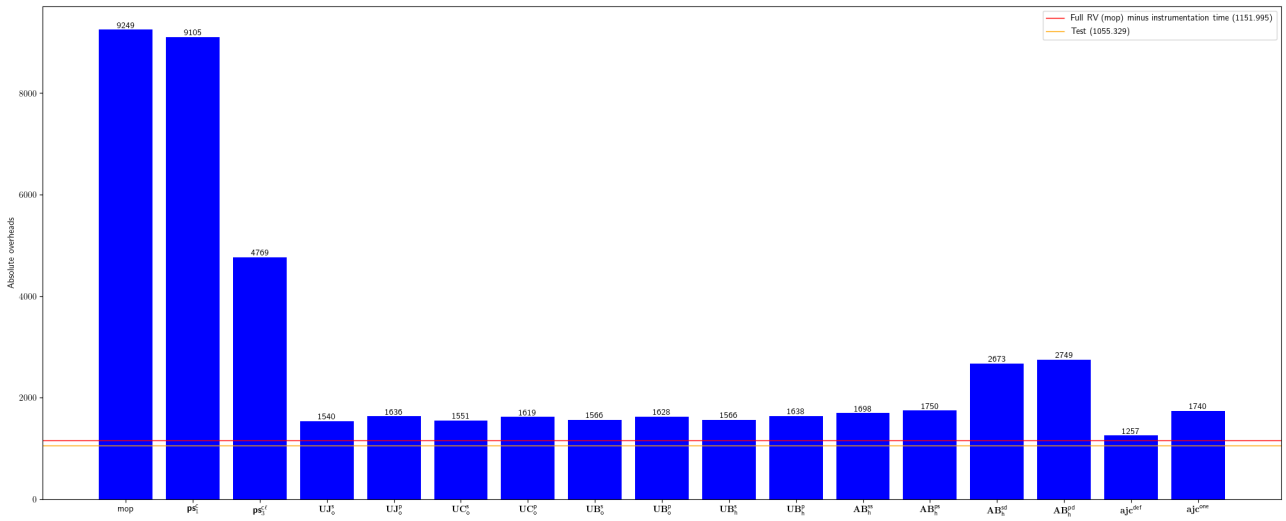

Fig. 4: Absolute overhead for actiontech-dble

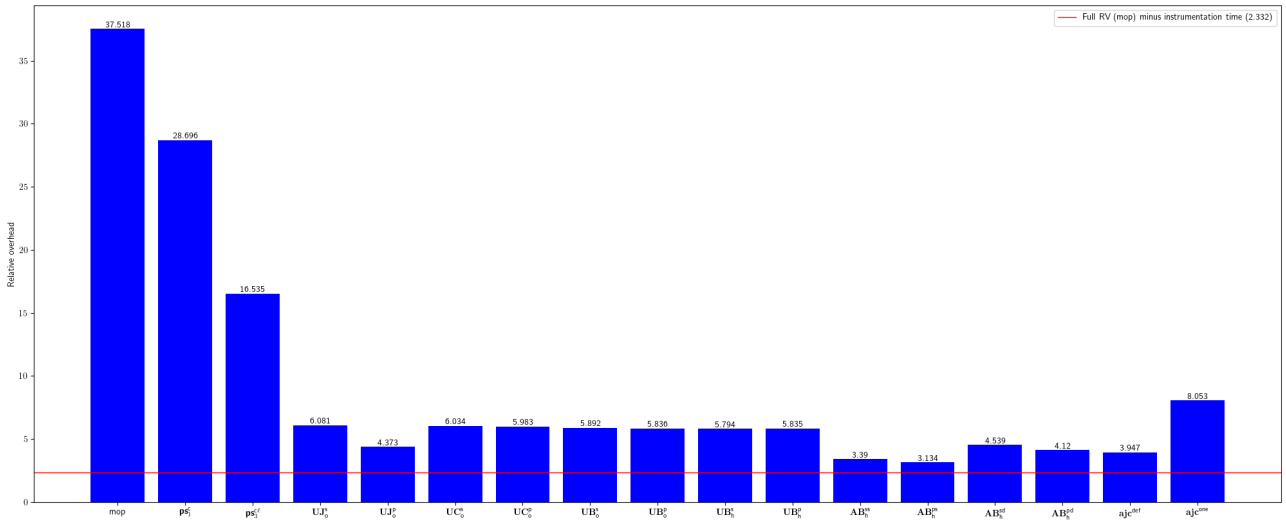

Fig. 5: Relative overhead for alfasoftware-soapstone

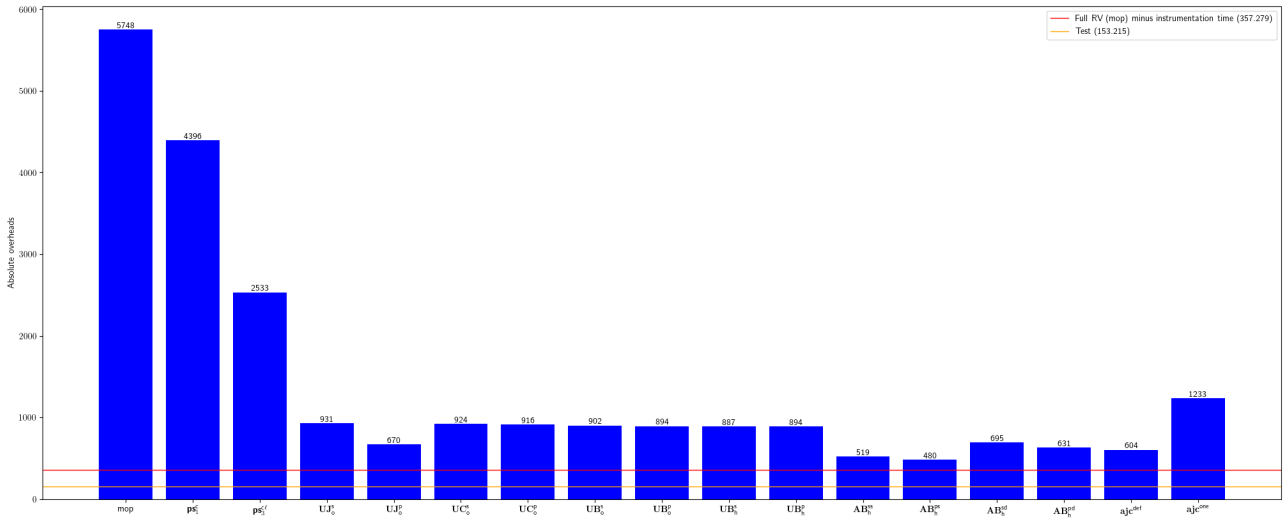

Fig. 6: Absolute overhead for alfasoftware-soapstone

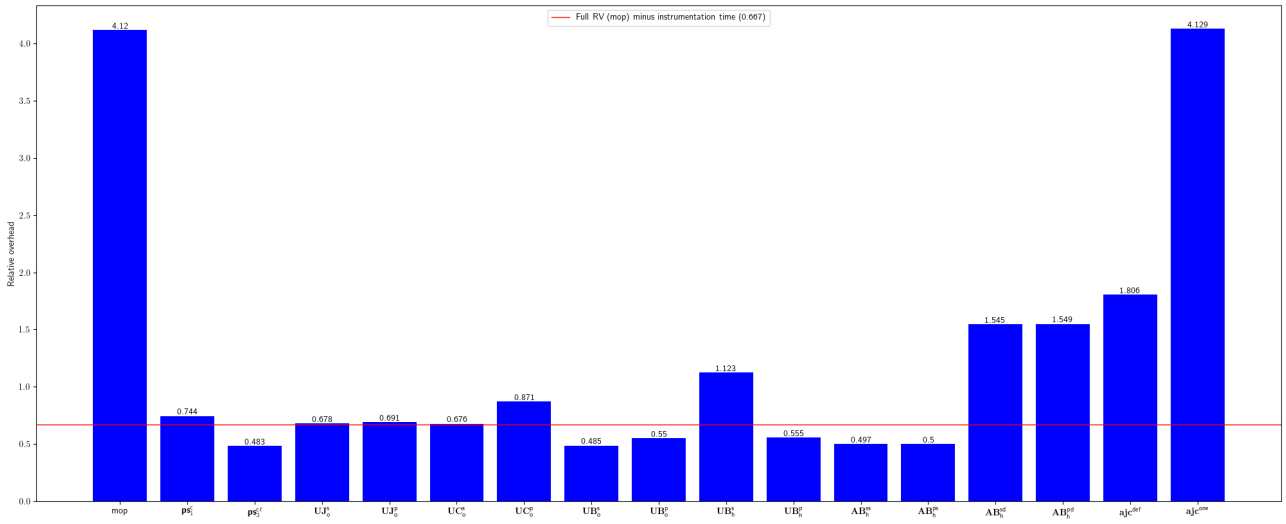

Fig. 7: Relative overhead for apache-commons-io

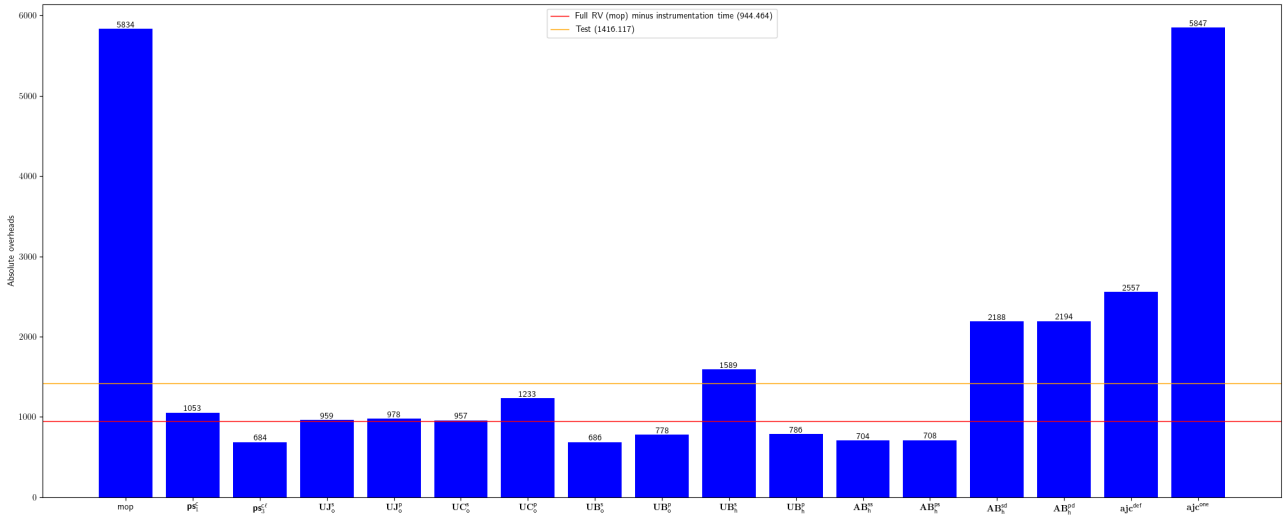

Fig. 8: Absolute overhead for apache-commons-io

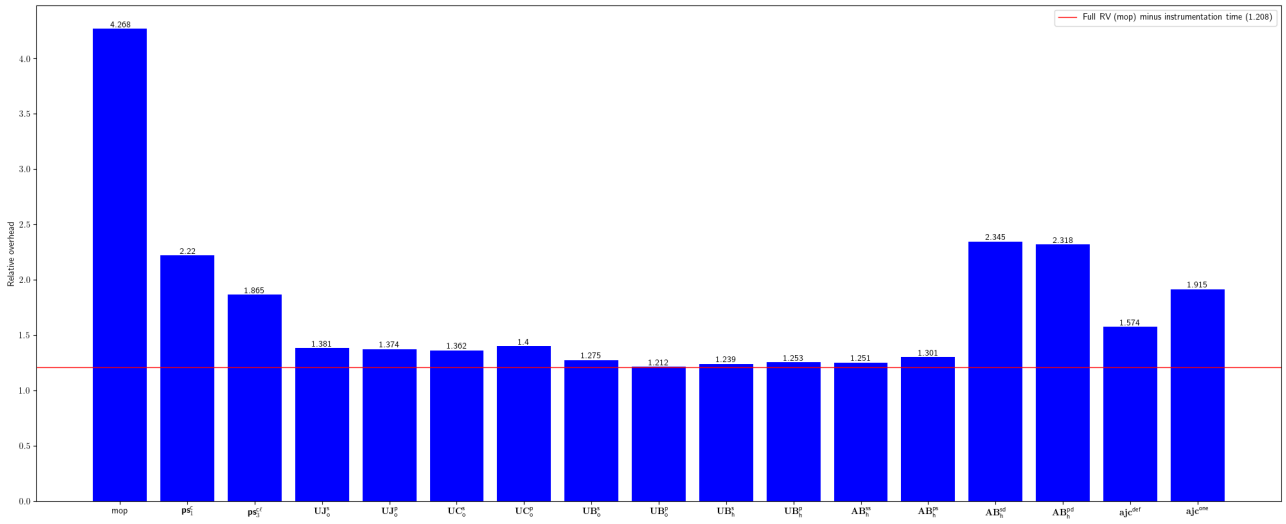

Fig. 9: Relative overhead for apache-commons-lang

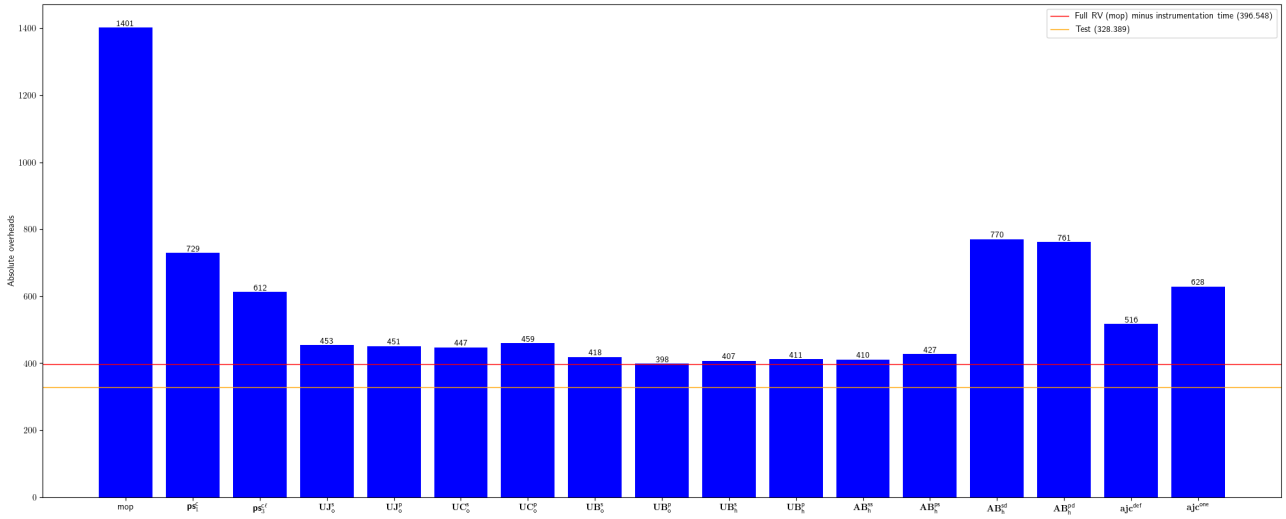

Fig. 10: Absolute overhead for apache-commons-lang

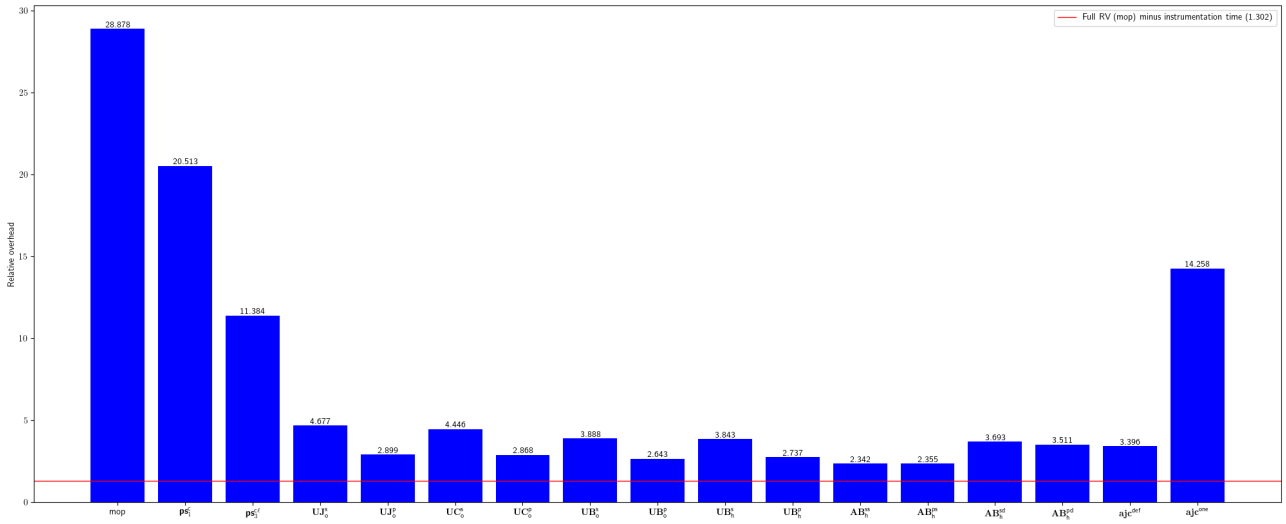

Fig. 11: Relative overhead for apache-sling-org-apache-sling-feature

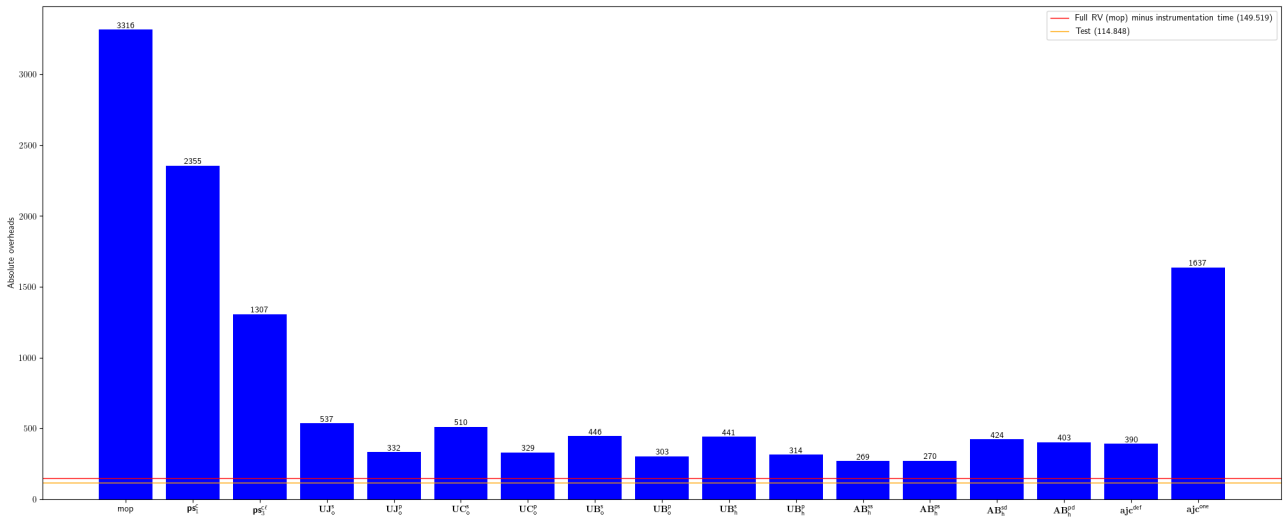

Fig. 12: Absolute overhead for apache-sling-org-apache-sling-feature

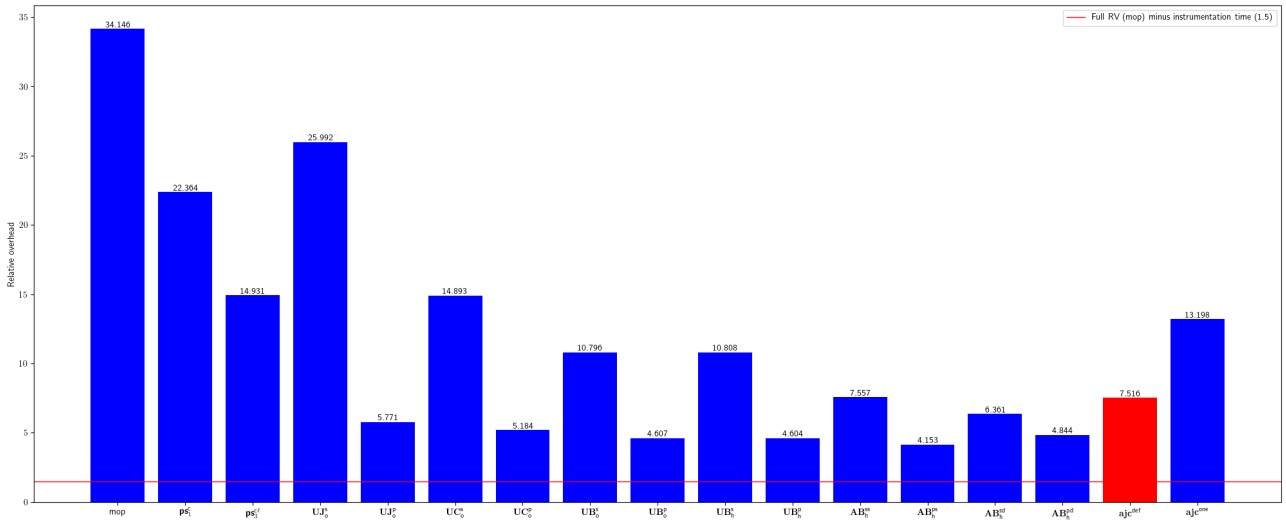

Fig. 13: Relative overhead for asciidoctor-asciidoclet

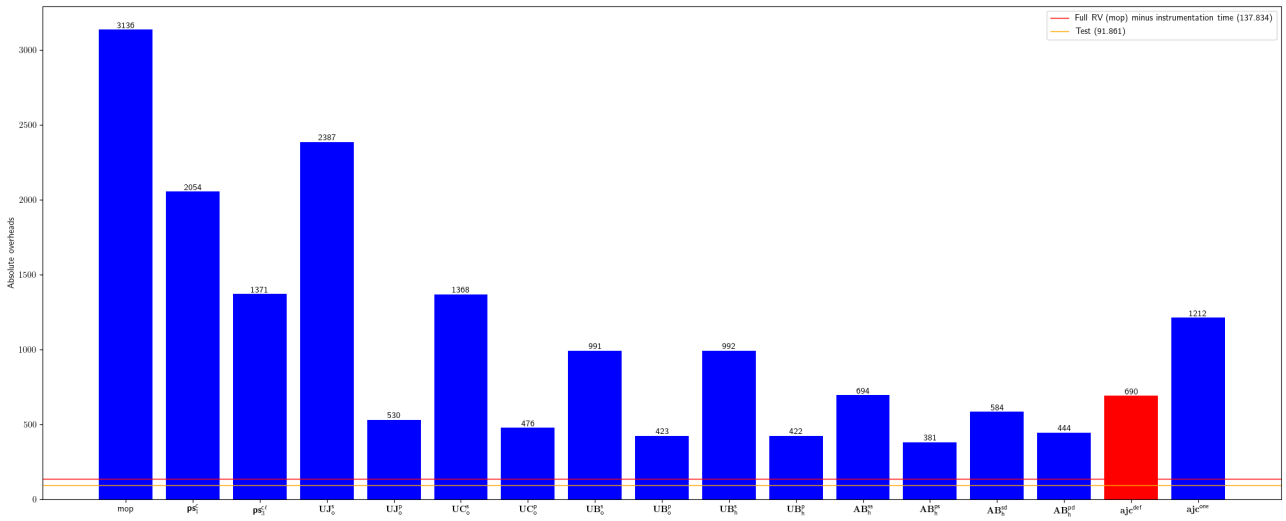

Fig. 14: Absolute overhead for asciidoctor-asciidoclet

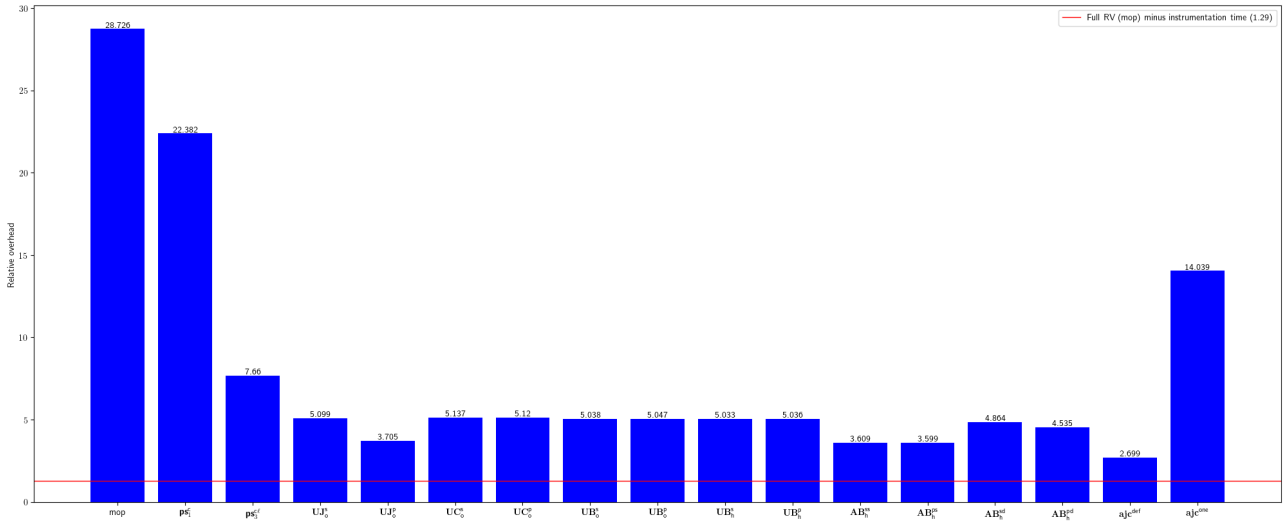

Fig. 15: Relative overhead for braintree-braintree_java

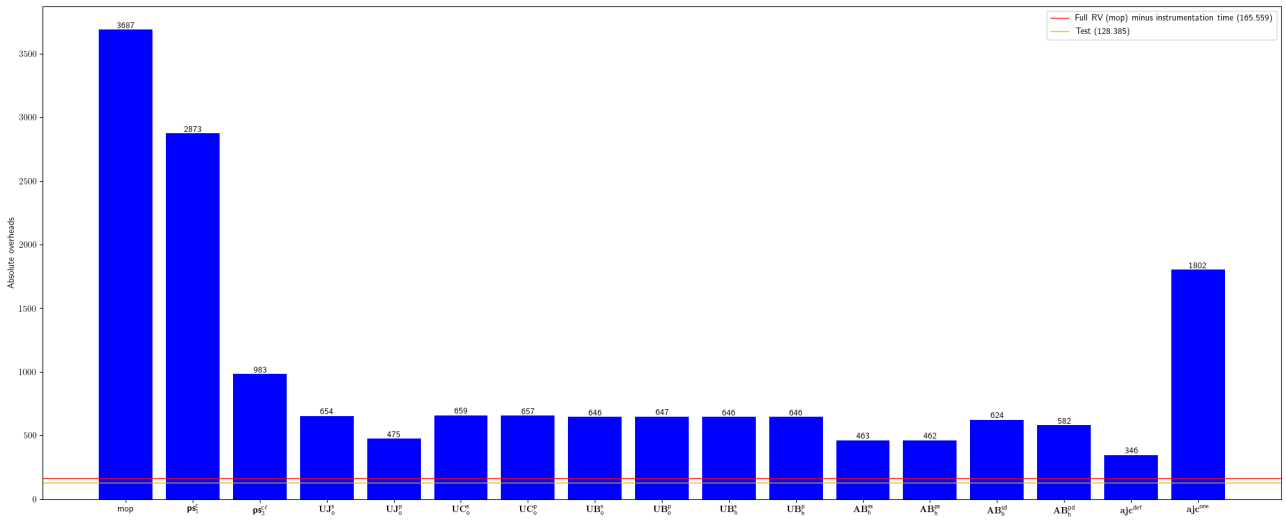

Fig. 16: Absolute overhead for braintree-braintree_java

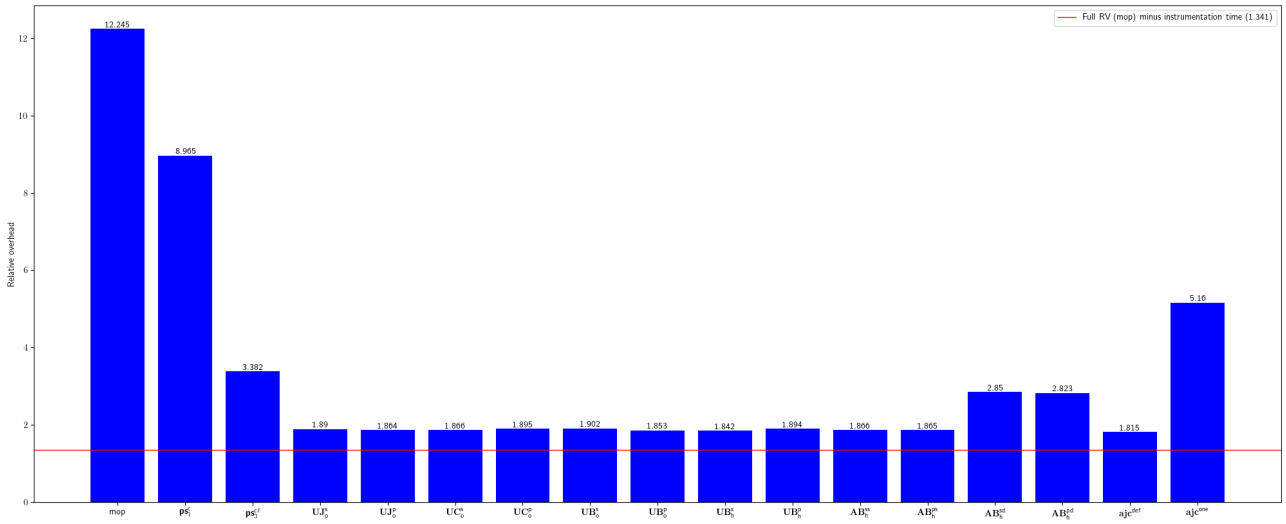

Fig. 17: Relative overhead for ChannelApe-shopify-sdk

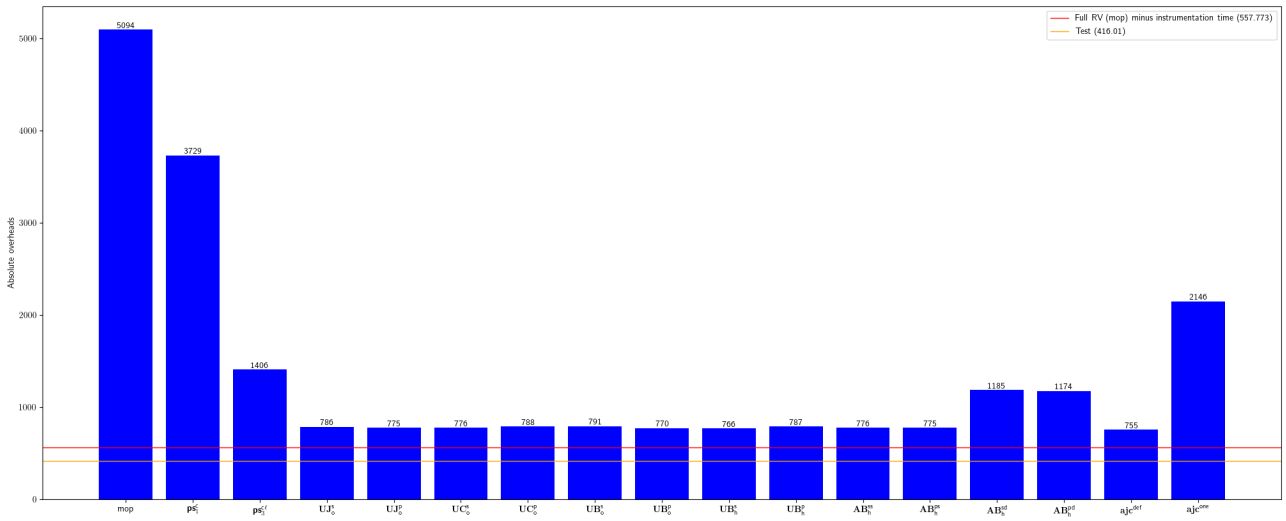

Fig. 18: Absolute overhead for ChannelApe-shopify-sdk

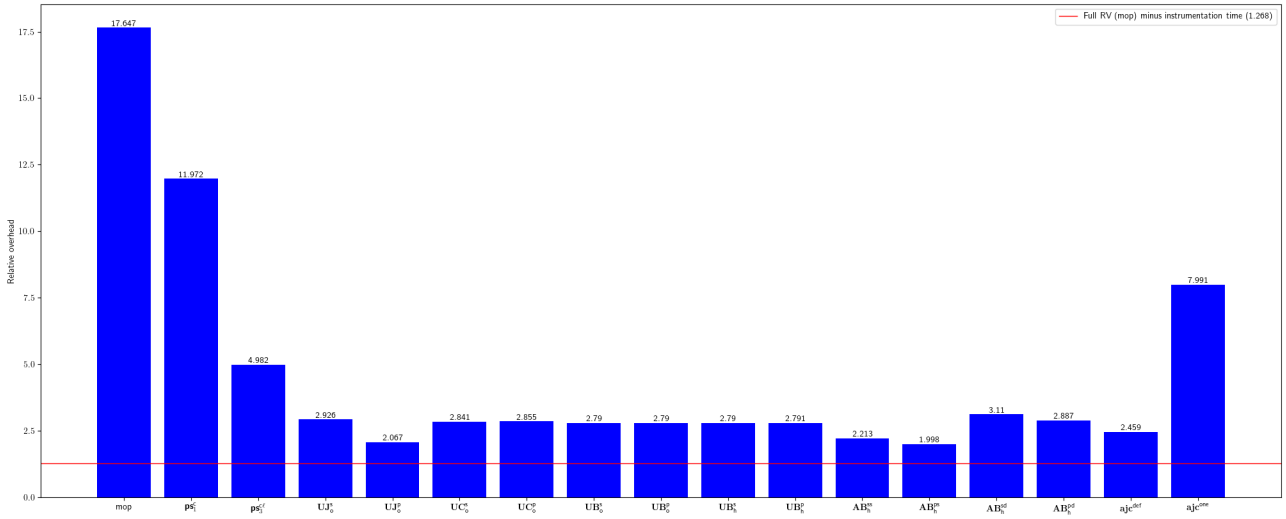

Fig. 19: Relative overhead for contentful-contentful.java

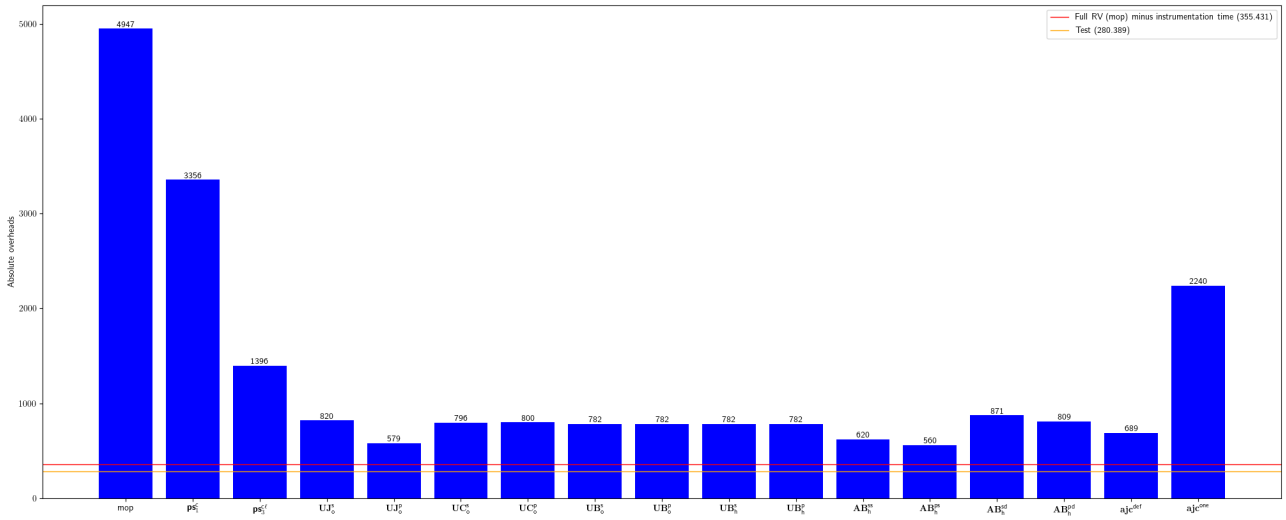

Fig. 20: Absolute overhead for contentful-contentful.java

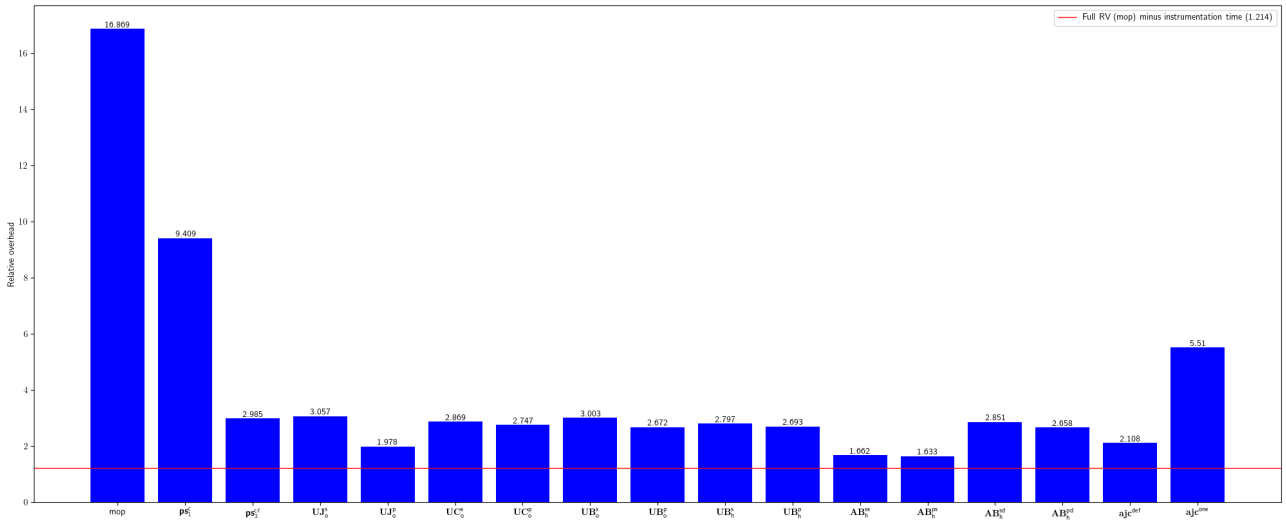

Fig. 21: Relative overhead for datastax-native-protocol

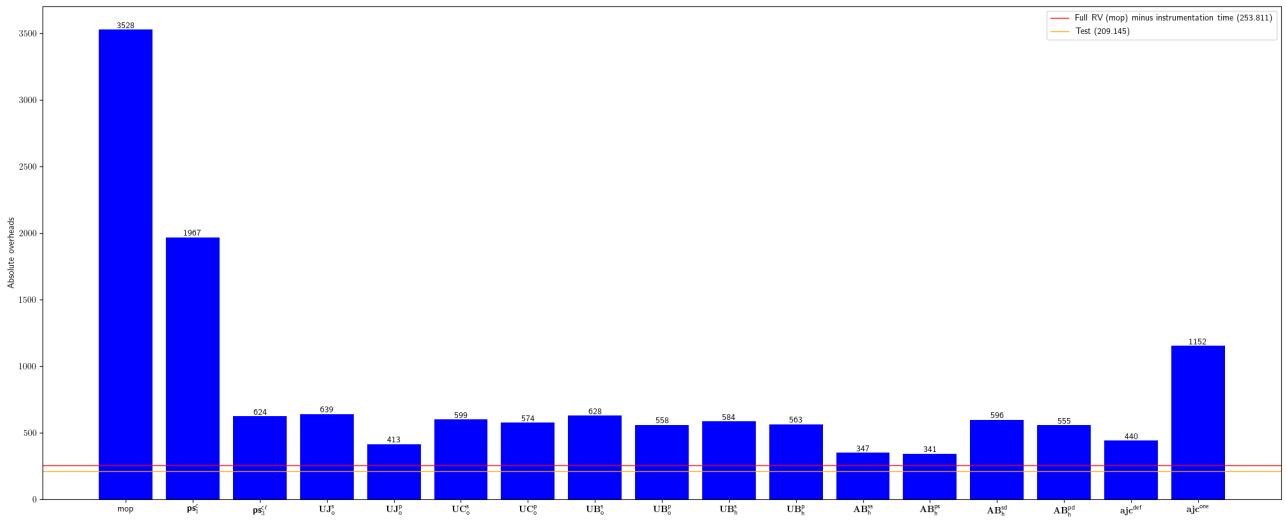

Fig. 22: Absolute overhead for datastax-native-protocol

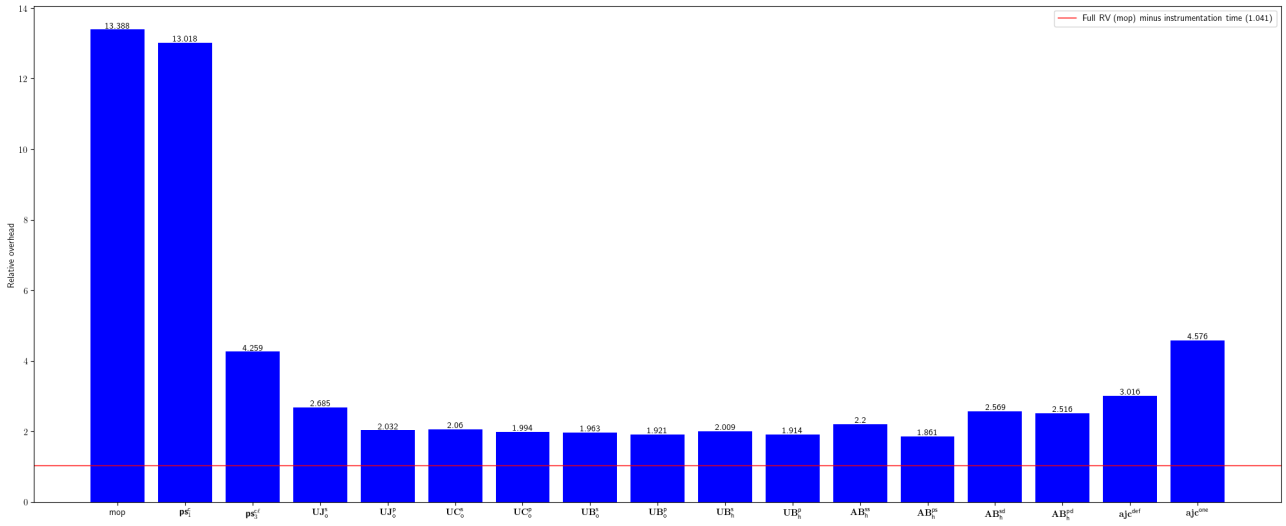

Fig. 23: Relative overhead for davidmoten-rxjava2-file

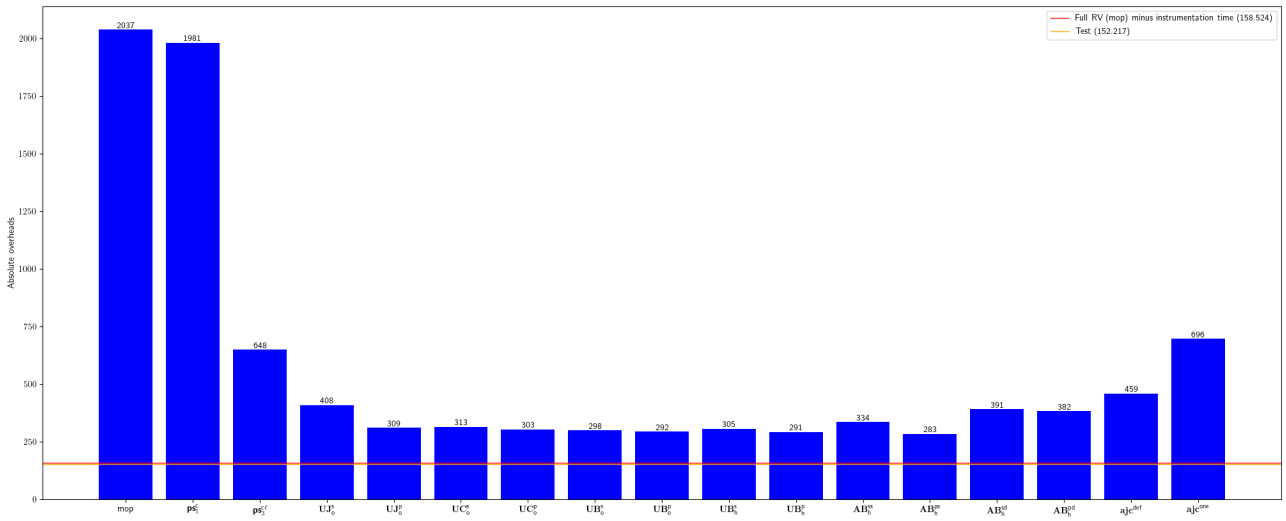

Fig. 24: Absolute overhead for davidmoten-rxjava2-file

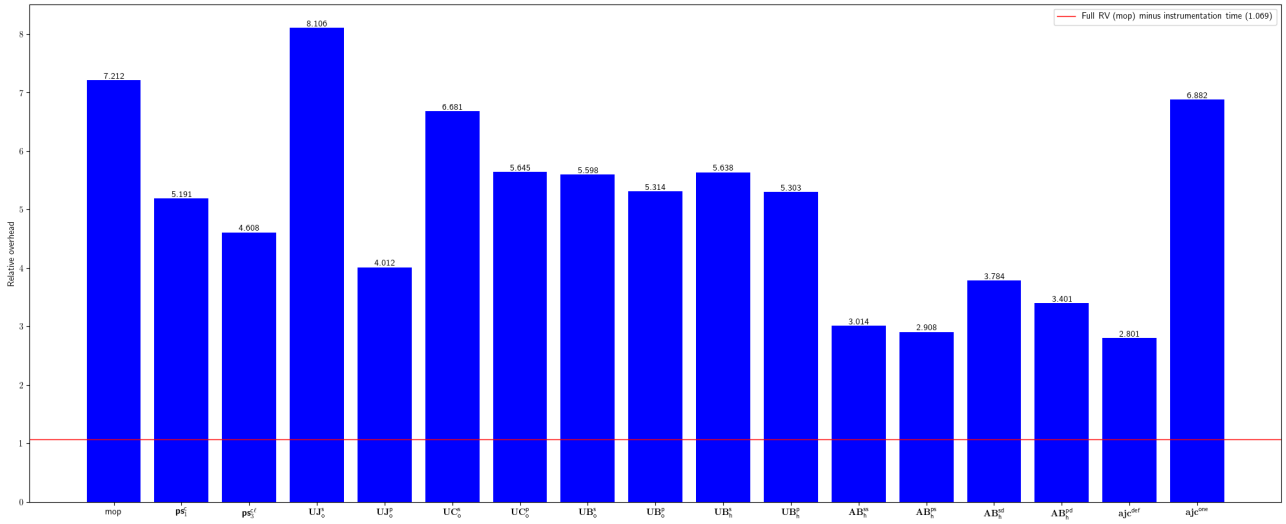

Fig. 25: Relative overhead for davidmoten-rxjava-slf4j

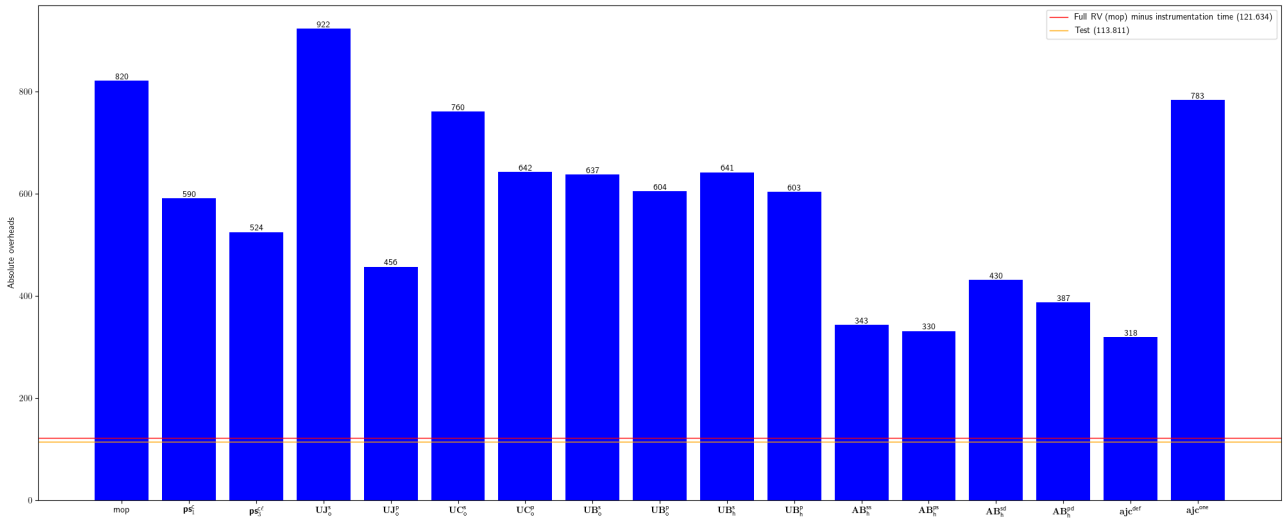

Fig. 26: Absolute overhead for davidmoten-rxjava-slf4j

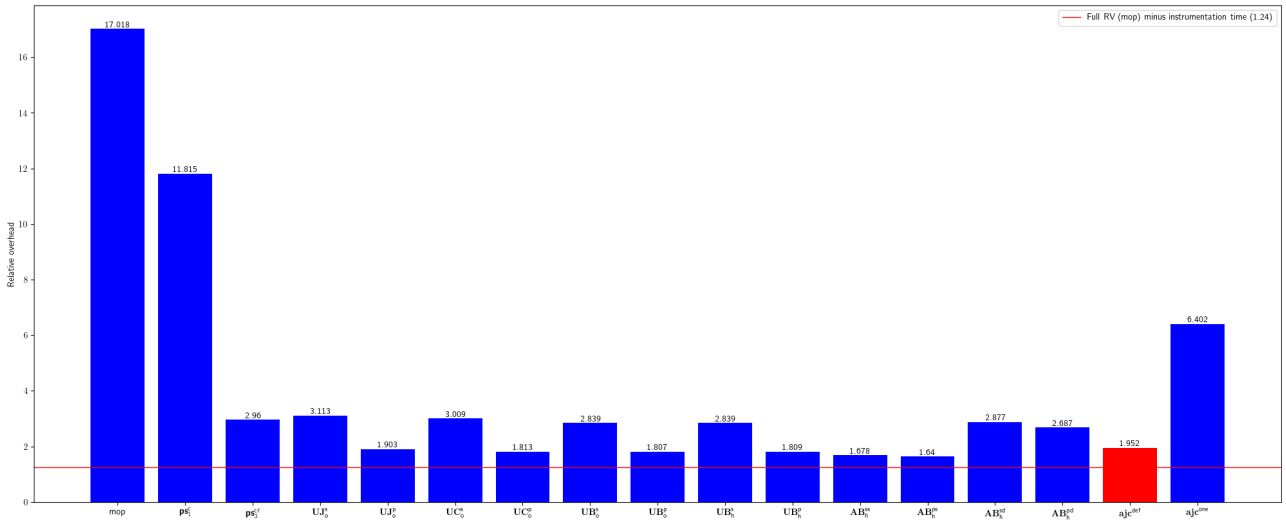

Fig. 27: Relative overhead for devcon5io-mutation-analysis-plugin

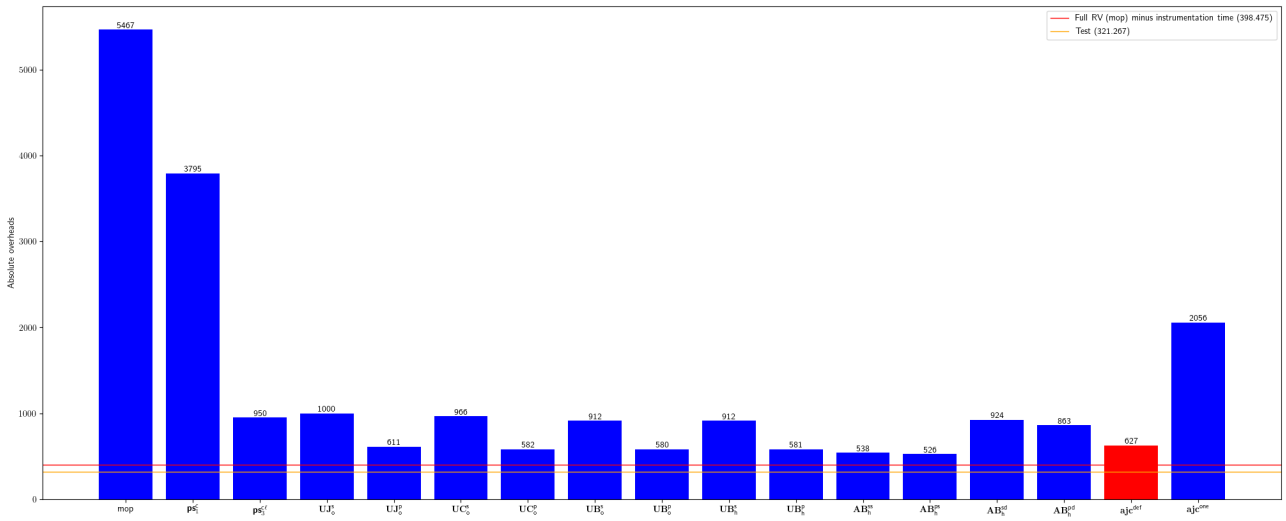

Fig. 28: Absolute overhead for devcon5io-mutation-analysis-plugin

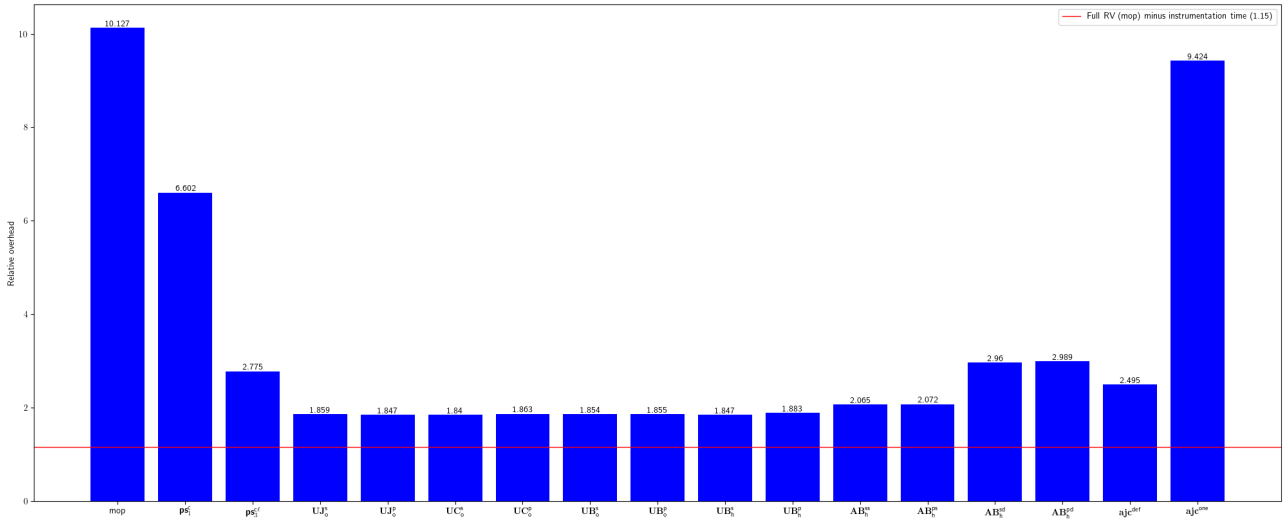

Fig. 29: Relative overhead for fsantiag-sonar-clojure

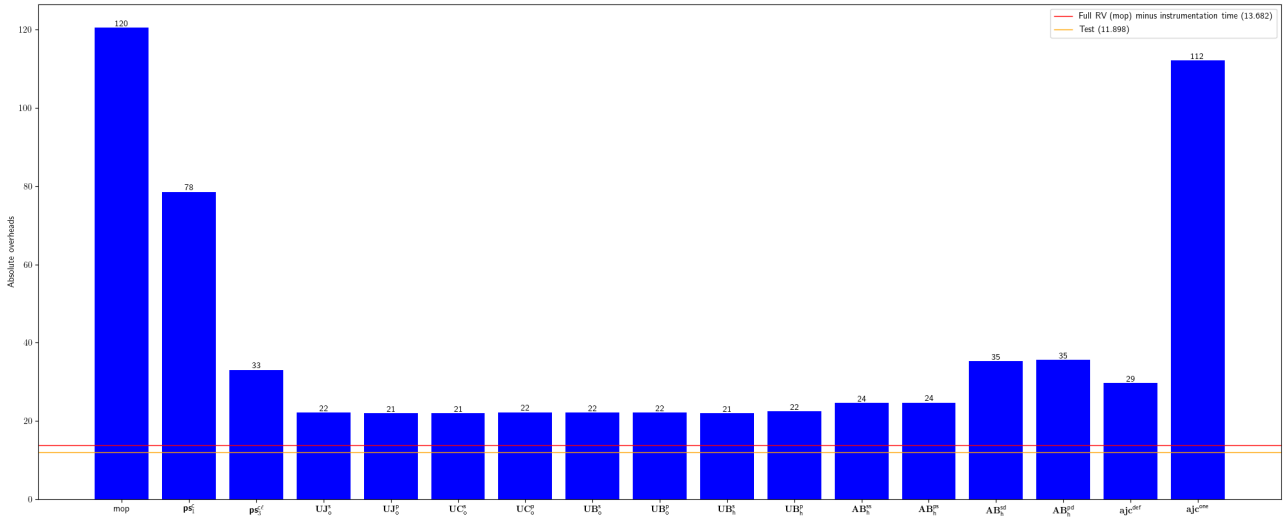

Fig. 30: Absolute overhead for fsantiag-sonar-clojure

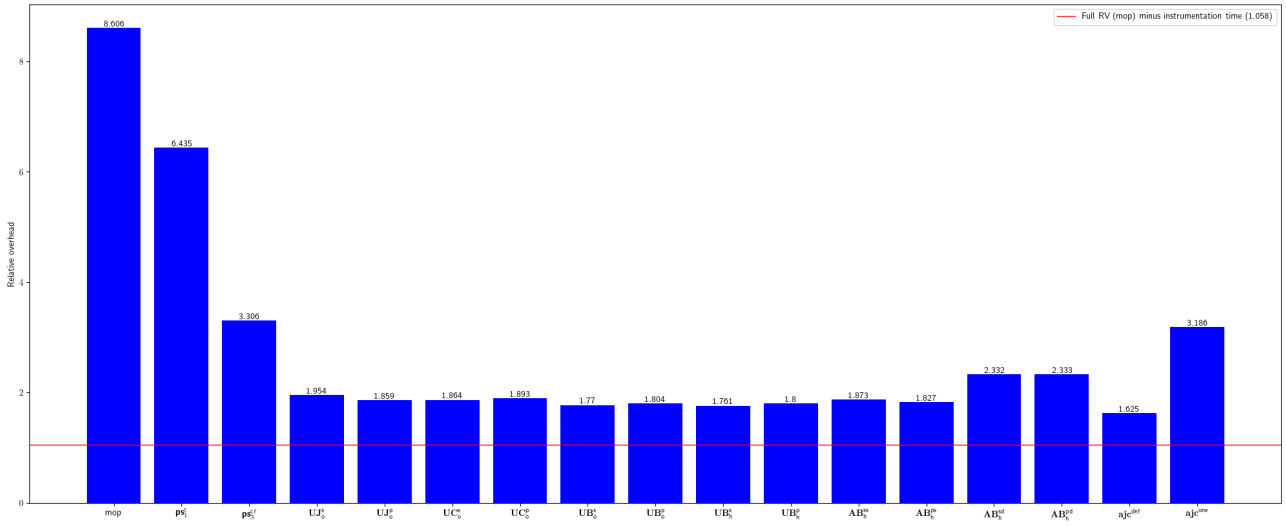

Fig. 31: Relative overhead for gabrie-allaigre-sonar-gitlab-plugin

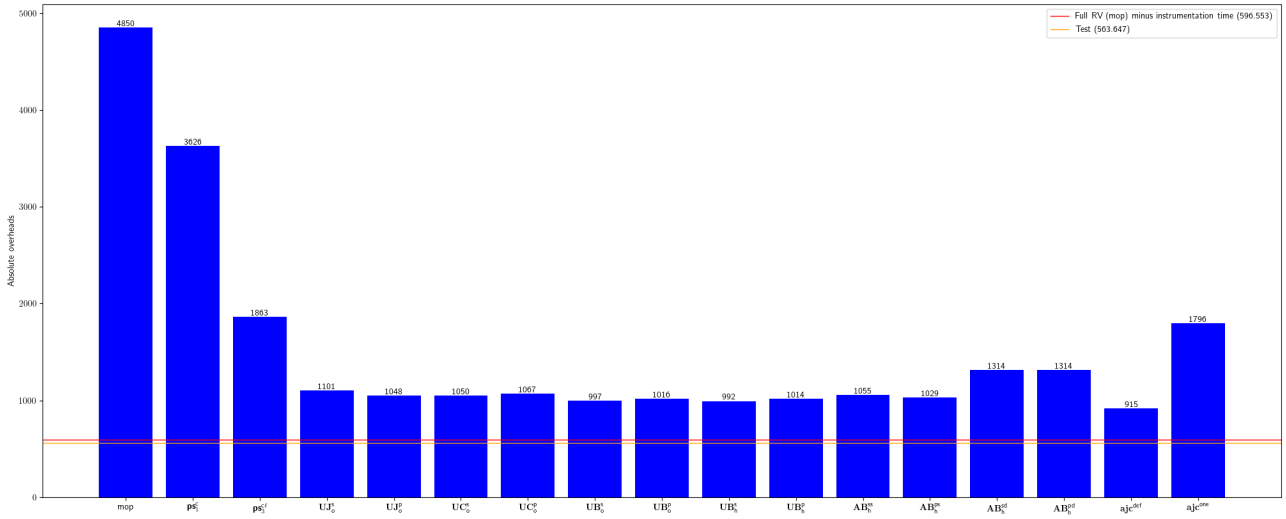

Fig. 32: Absolute overhead for gabrie-allaigre-sonar-gitlab-plugin

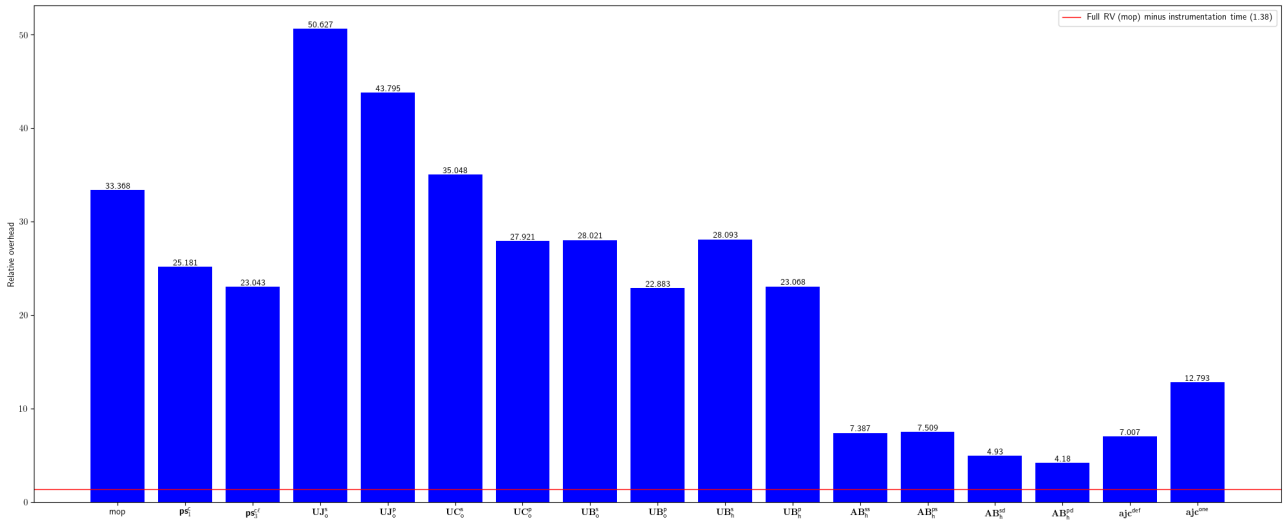

Fig. 33: Relative overhead for googleapis-java-pubsub-group-kafka-connector

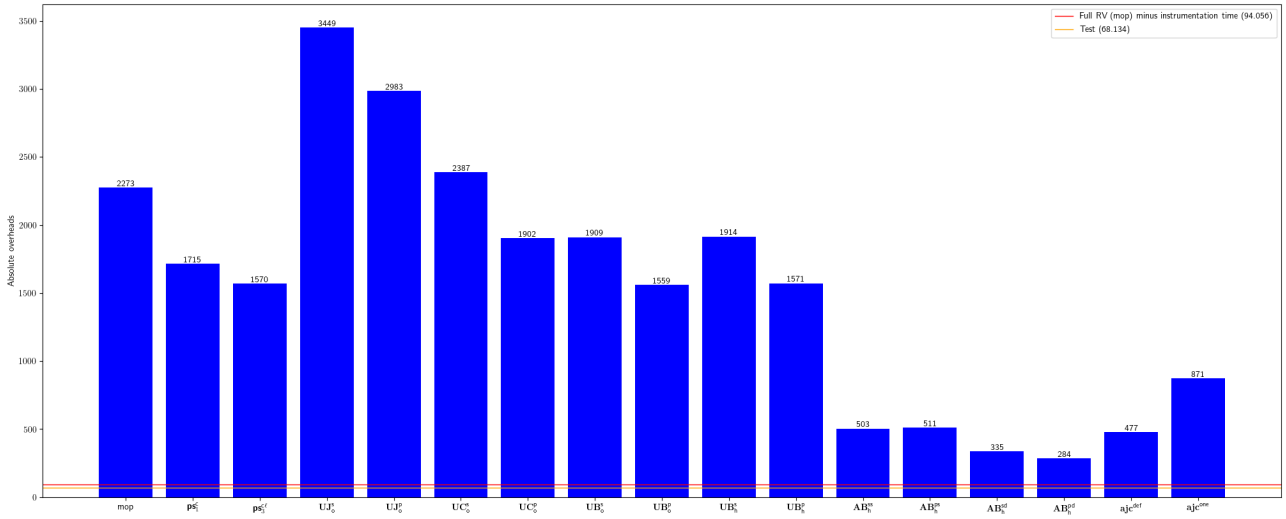

Fig. 34: Absolute overhead for googleapis-java-pubsub-group-kafka-connector

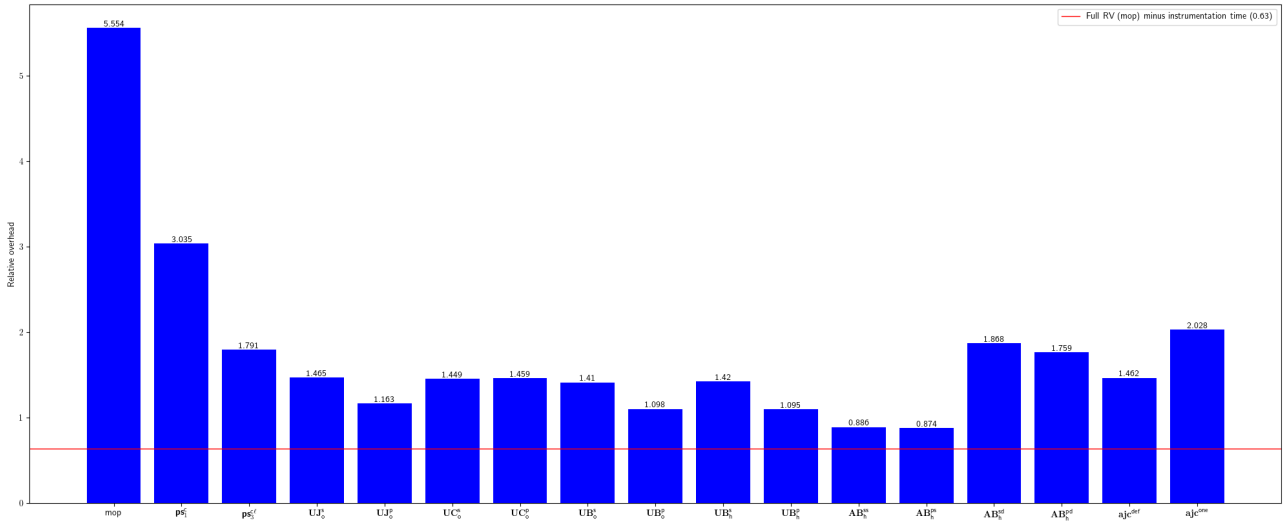

Fig. 35: Relative overhead for GoogleCloudPlatform-kafka-pubsub-emulator

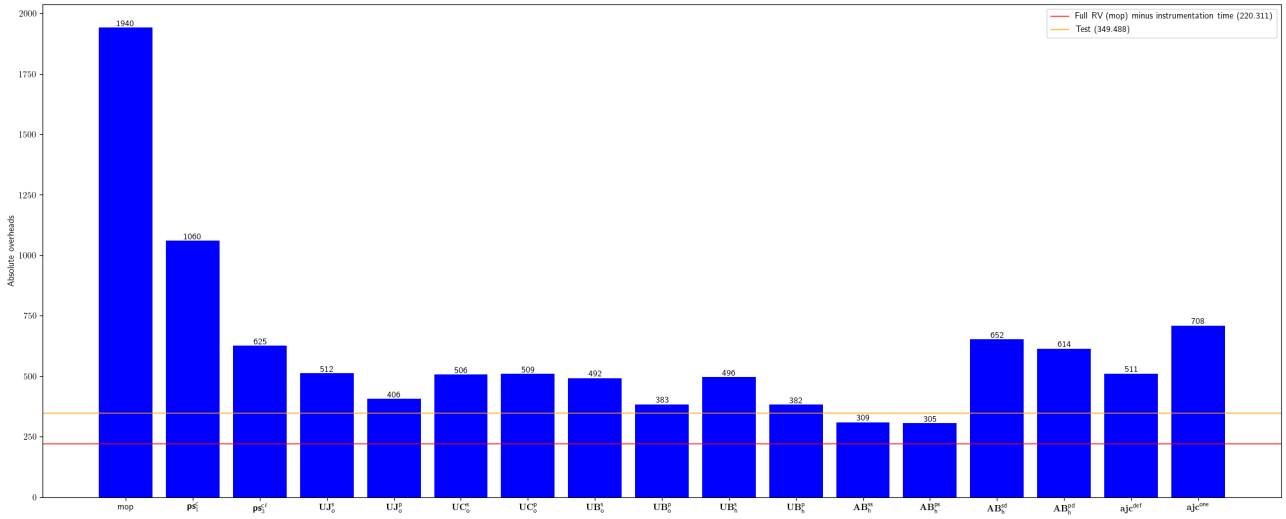

Fig. 36: Absolute overhead for GoogleCloudPlatform-kafka-pubsub-emulator

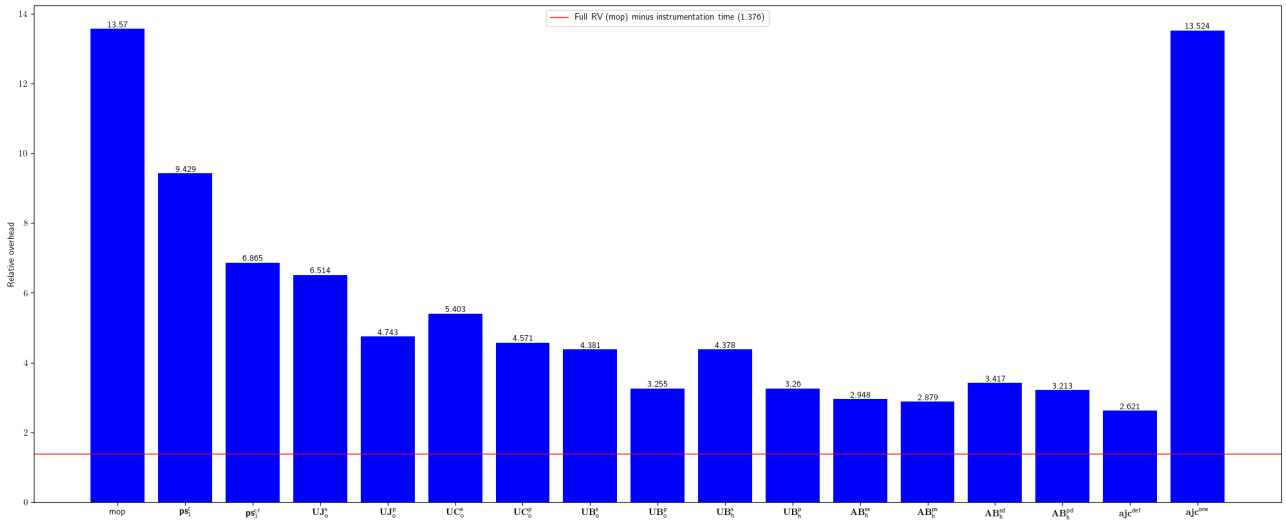

Fig. 37: Relative overhead for google-compile-testing

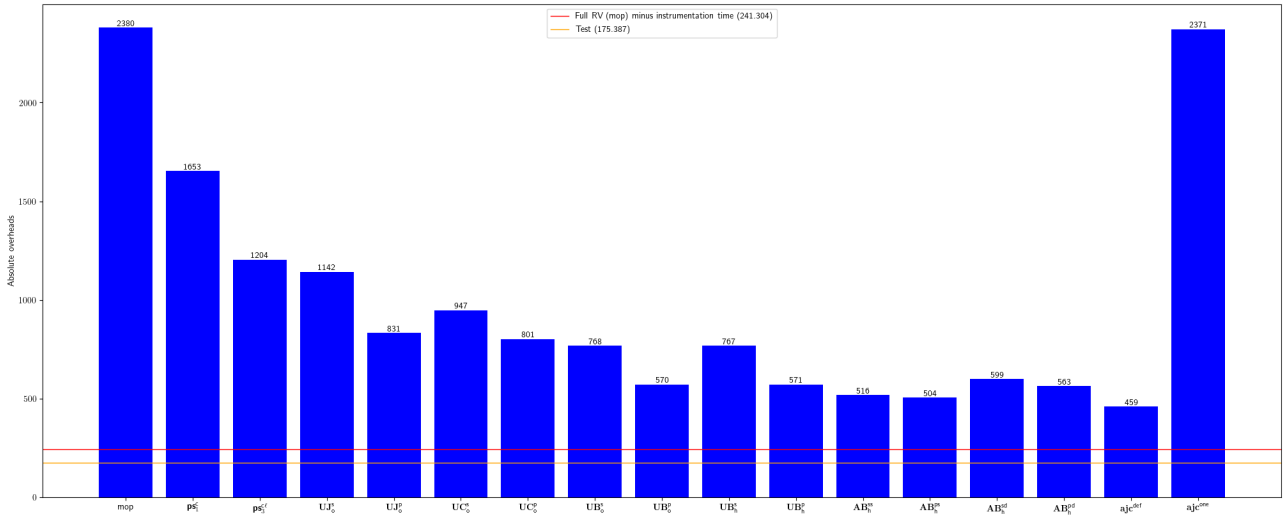

Fig. 38: Absolute overhead for google-compile-testing

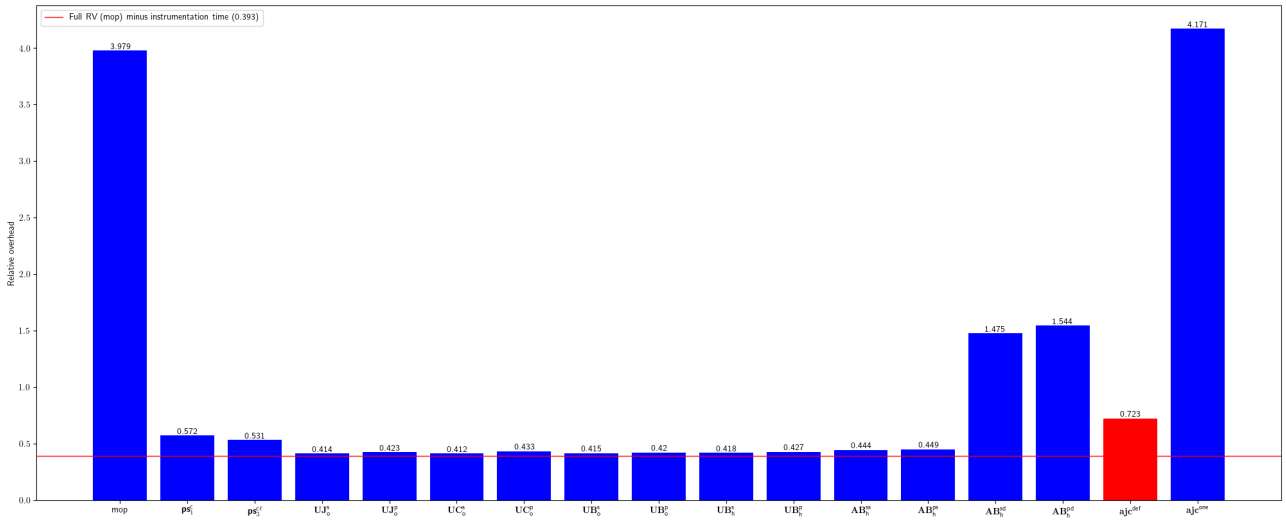

Fig. 39: Relative overhead for imglib-imglib2

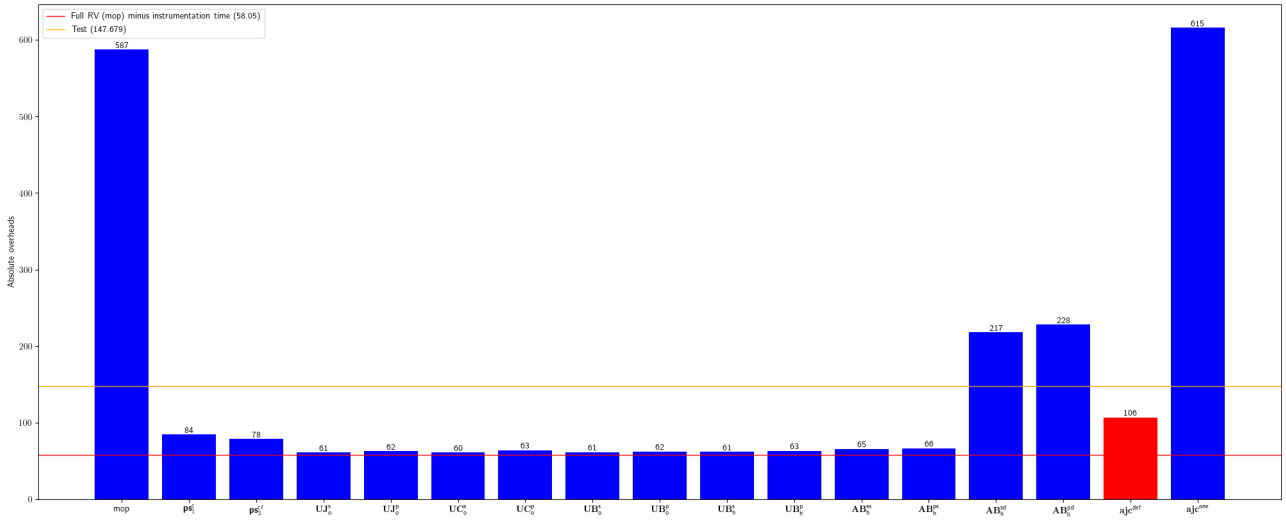

Fig. 40: Absolute overhead for imglib-imglib2

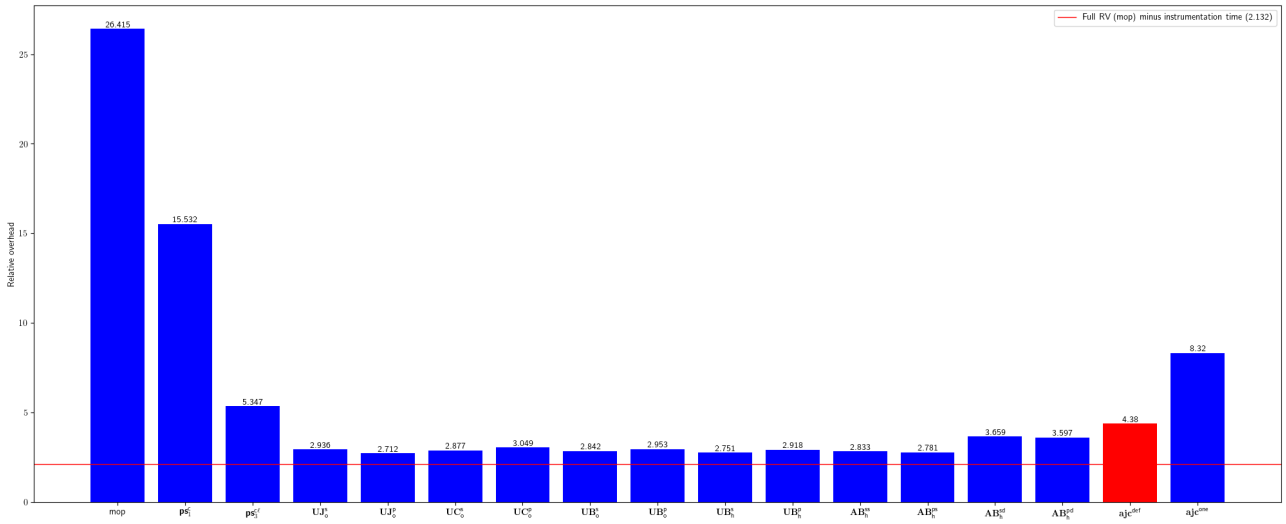

Fig. 41: Relative overhead for jdbc-observations-datasource-proxy

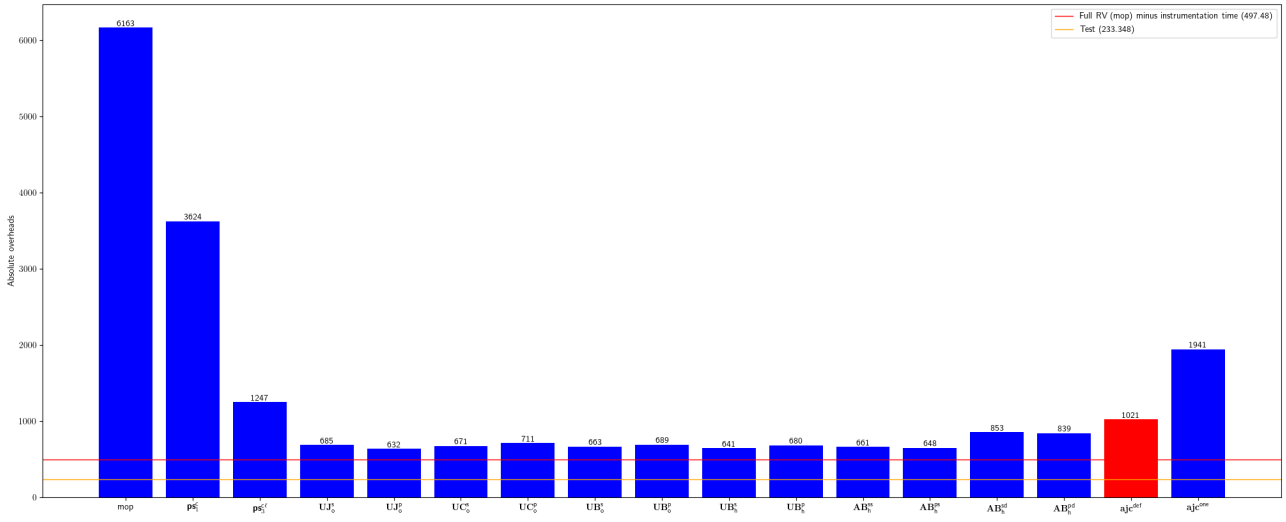

Fig. 42: Absolute overhead for jdbc-observations-datasource-proxy

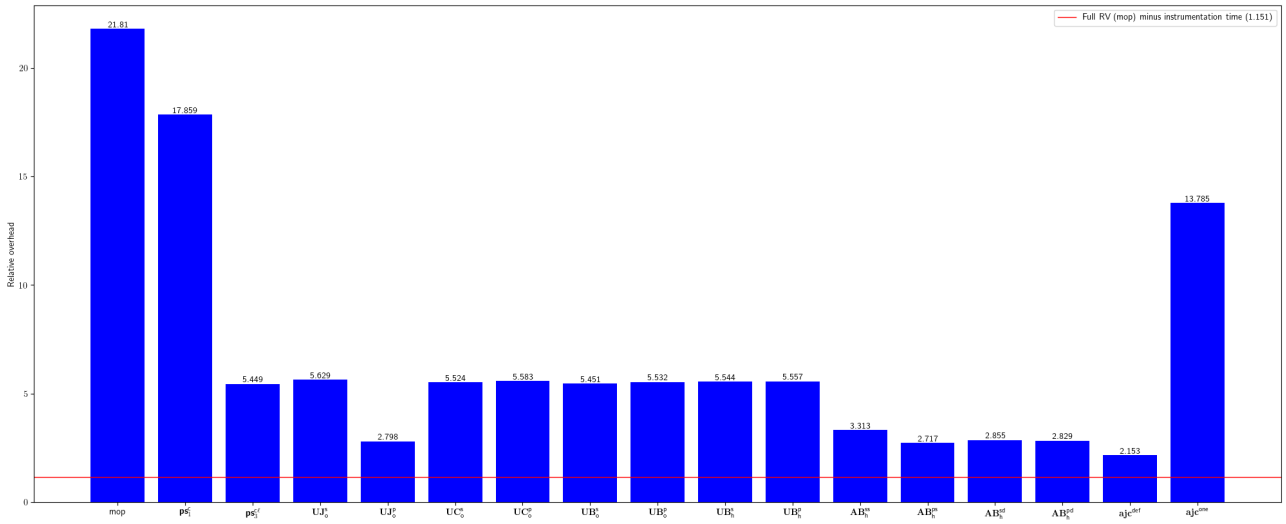

Fig. 43: Relative overhead for jmxtrans-embedded-jmxtrans

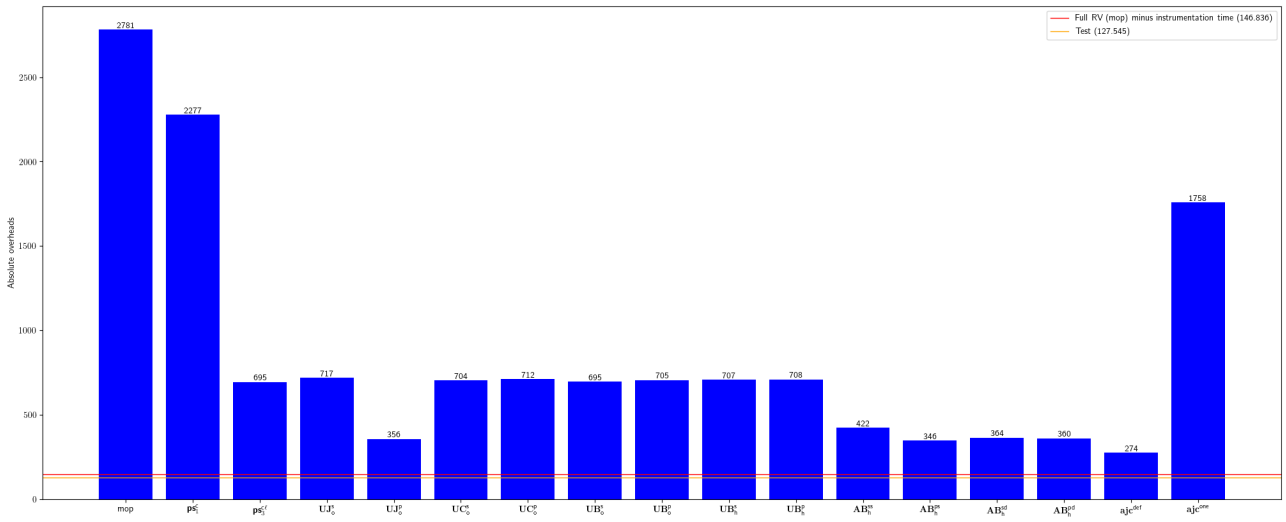

Fig. 44: Absolute overhead for jmxtrans-embedded-jmxtrans

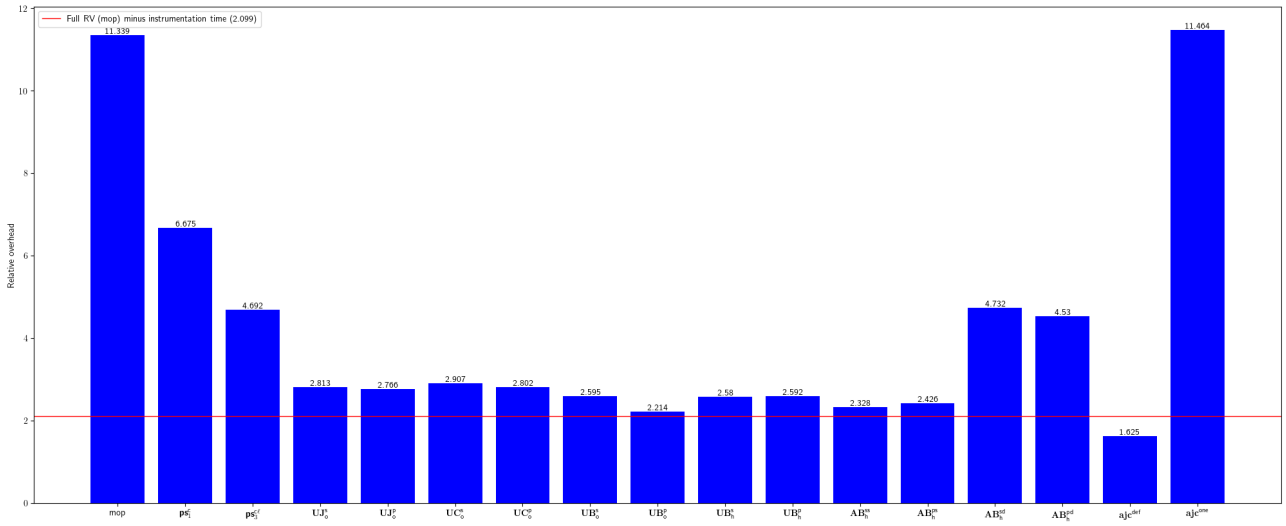

Fig. 45: Relative overhead for JodaOrg-joda-time

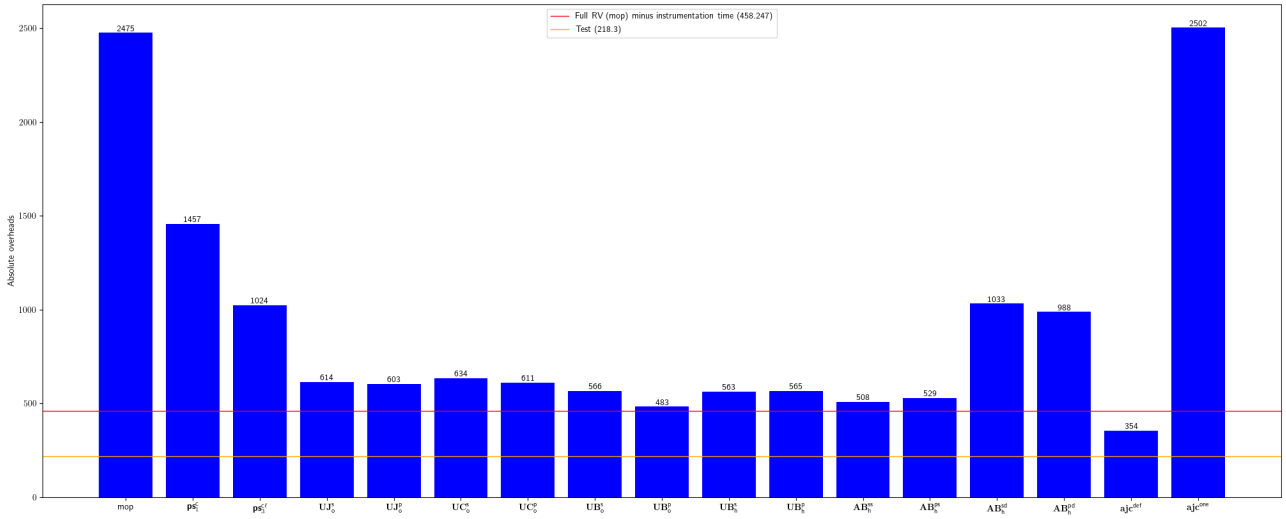

Fig. 46: Absolute overhead for JodaOrg-joda-time

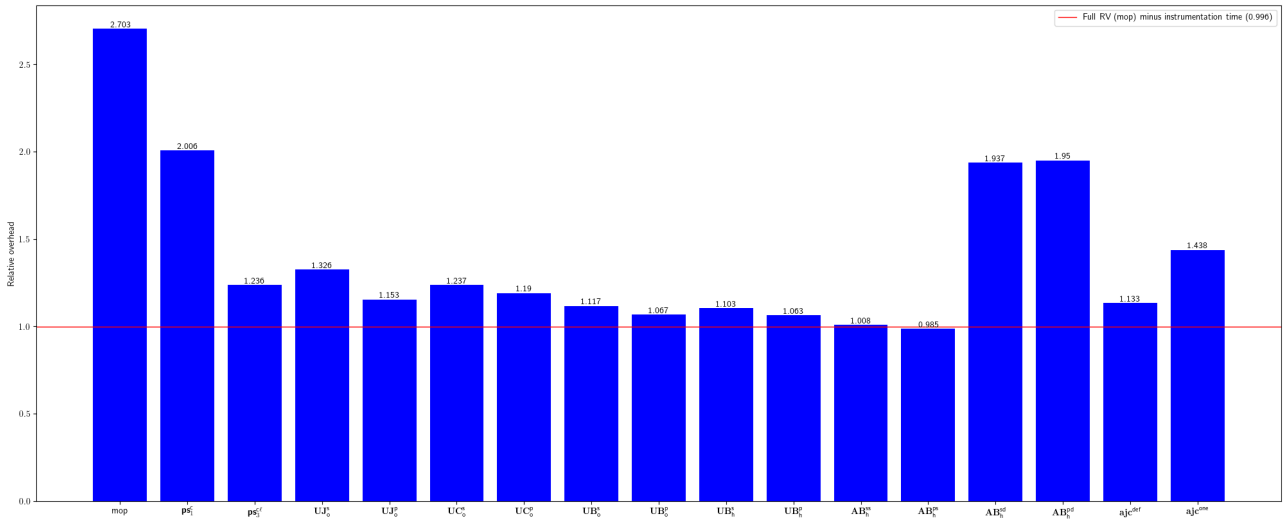

Fig. 47: Relative overhead for jscep-jscep

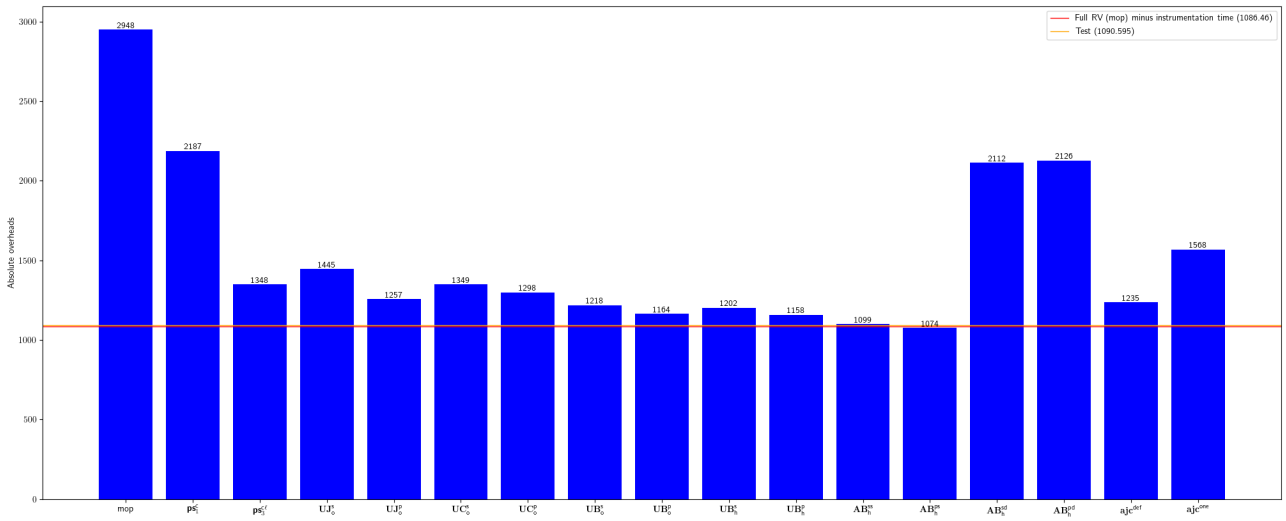

Fig. 48: Absolute overhead for jscep-jscep

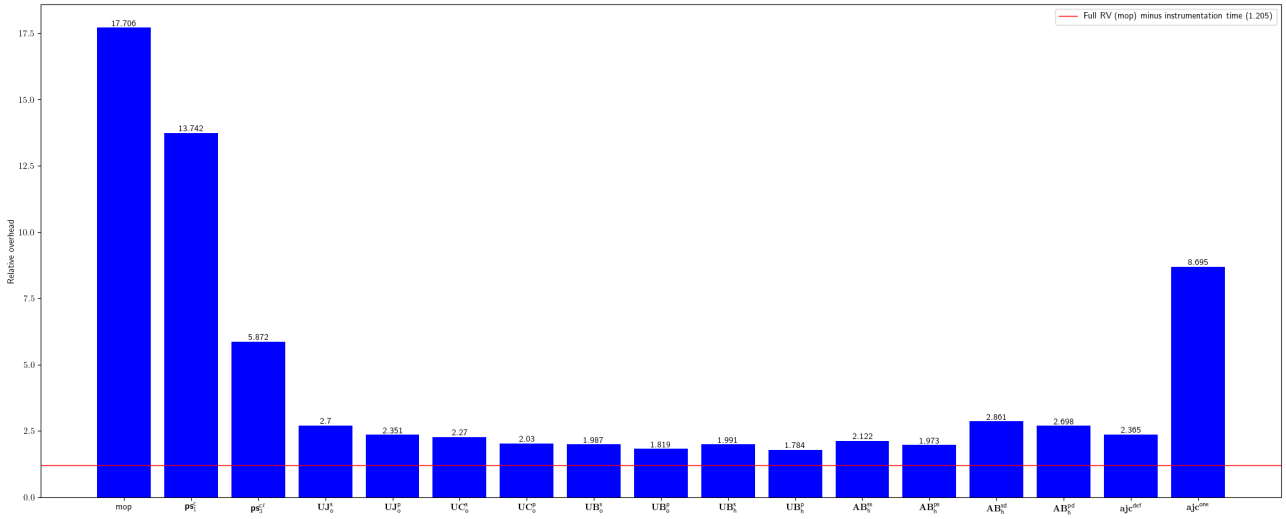

Fig. 49: Relative overhead for jsunsoftware-http-request

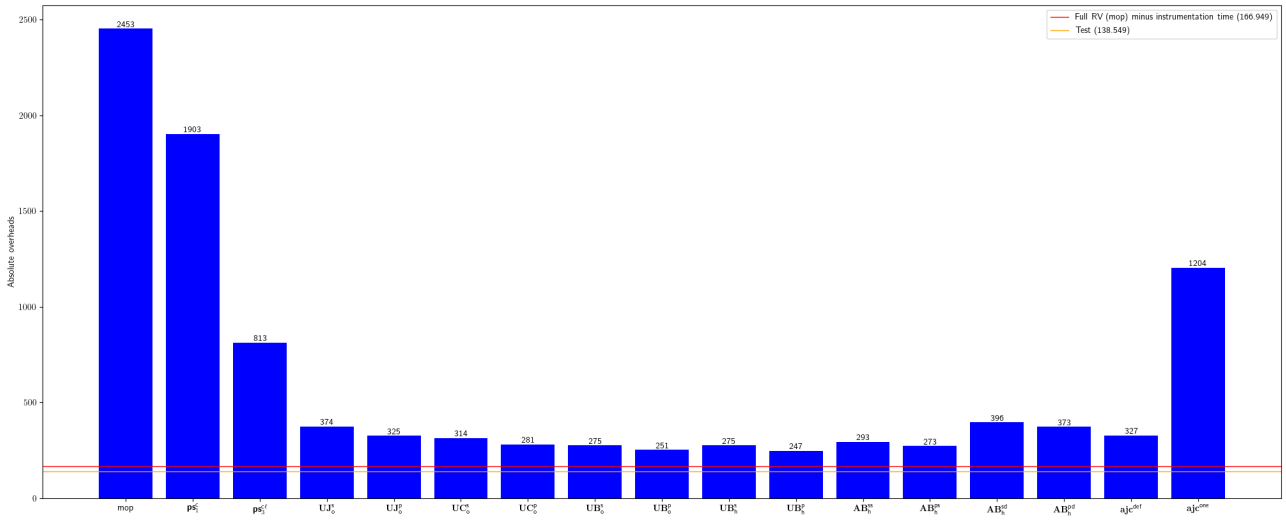

Fig. 50: Absolute overhead for jsunsoftware-http-request

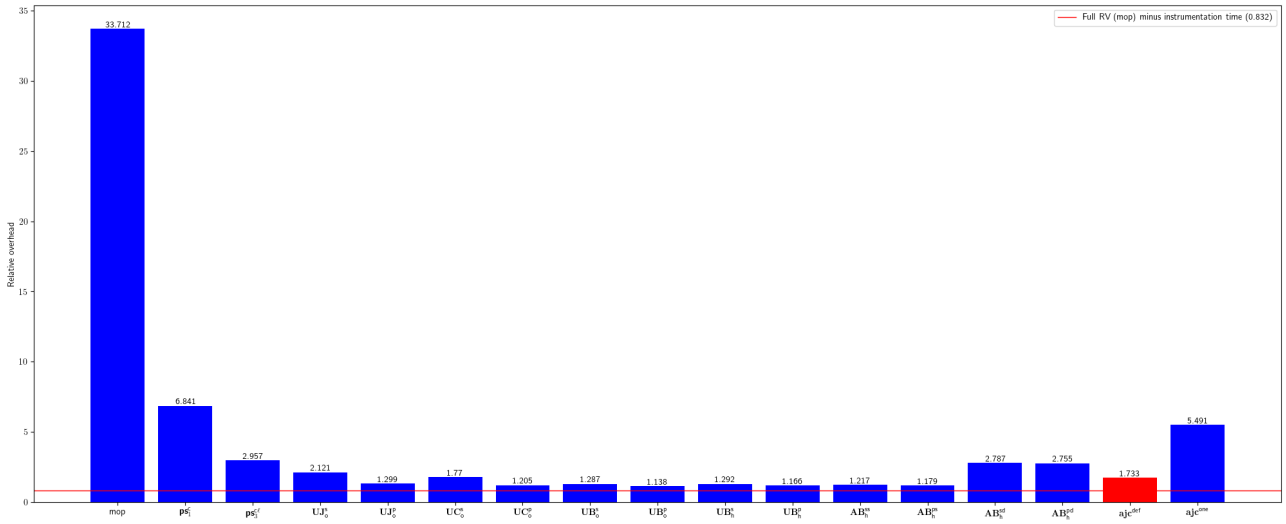

Fig. 51: Relative overhead for Mastercard-client-encryption-java

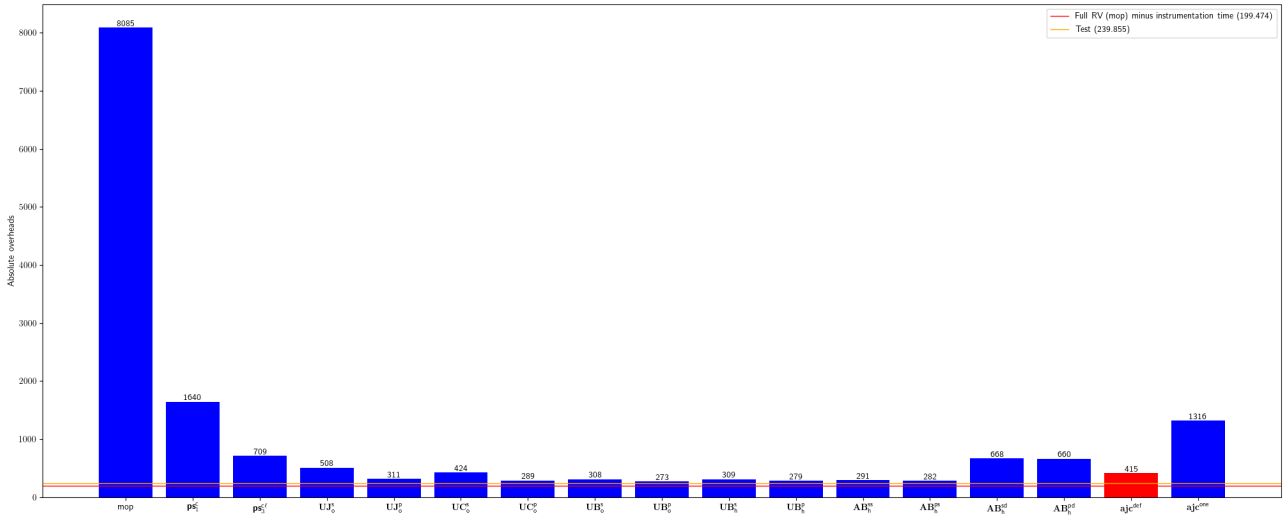

Fig. 52: Absolute overhead for Mastercard-client-encryption-java

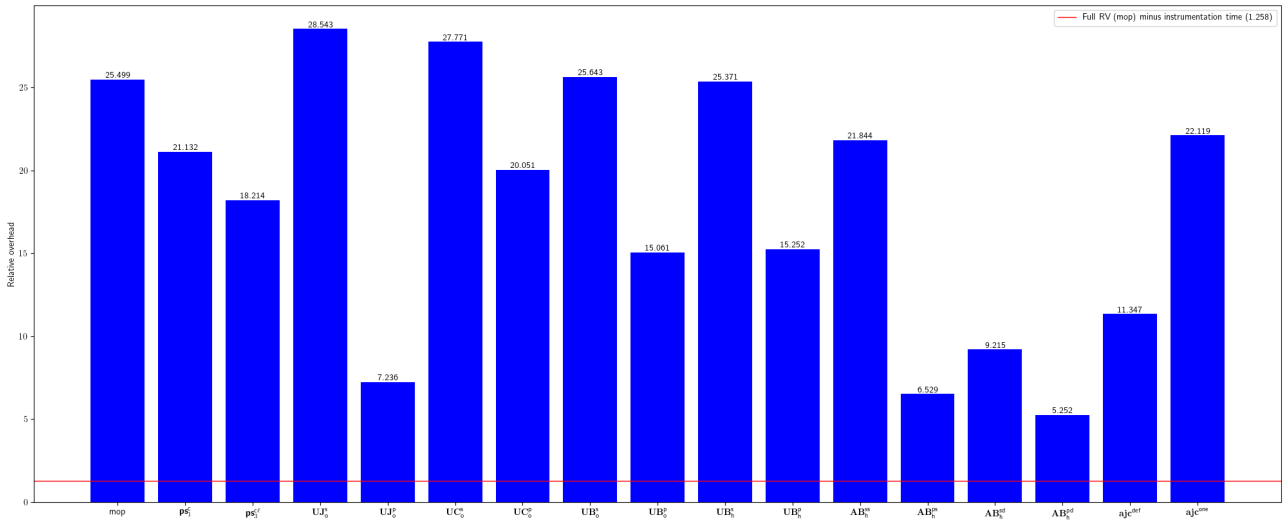

Fig. 53: Relative overhead for mdewilde-opml-parser

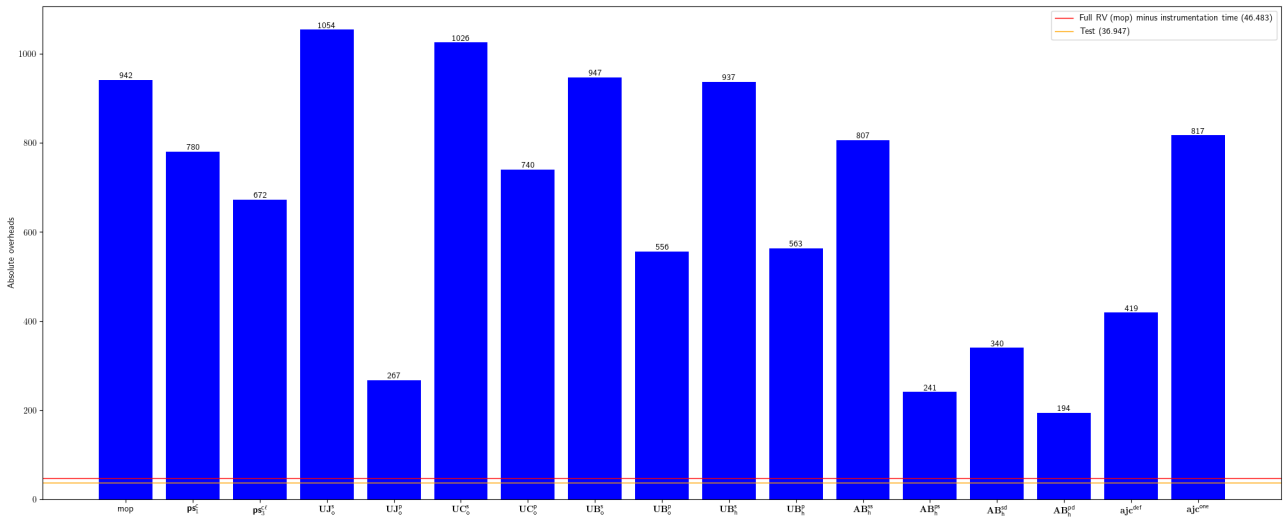

Fig. 54: Absolute overhead for mdewilde-opml-parser

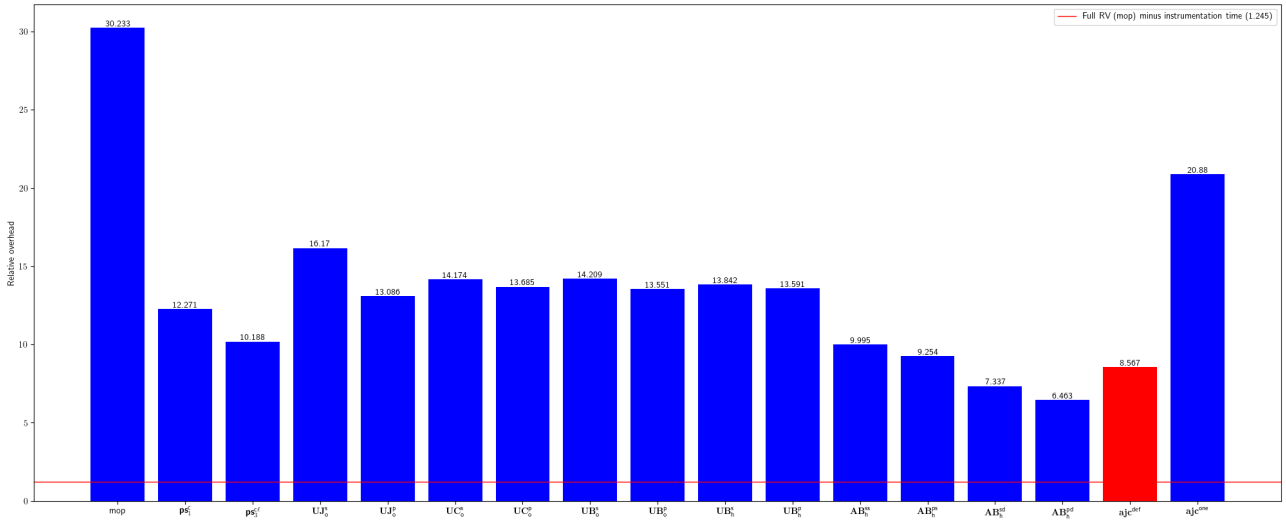

Fig. 55: Relative overhead for meltmedia-jgroups-aws

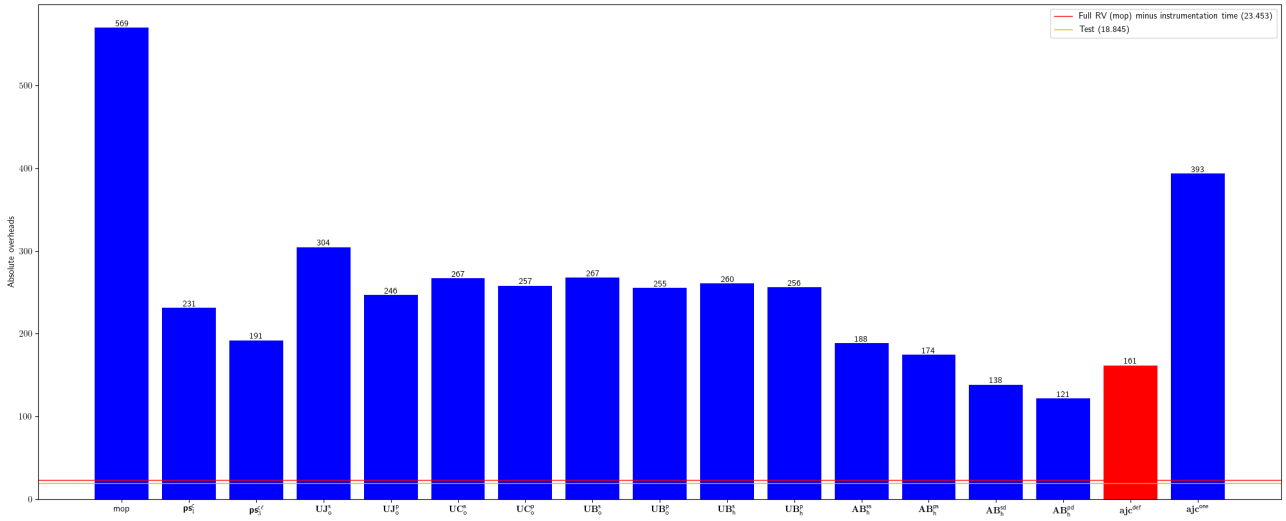

Fig. 56: Absolute overhead for meltmedia-jgroups-aws

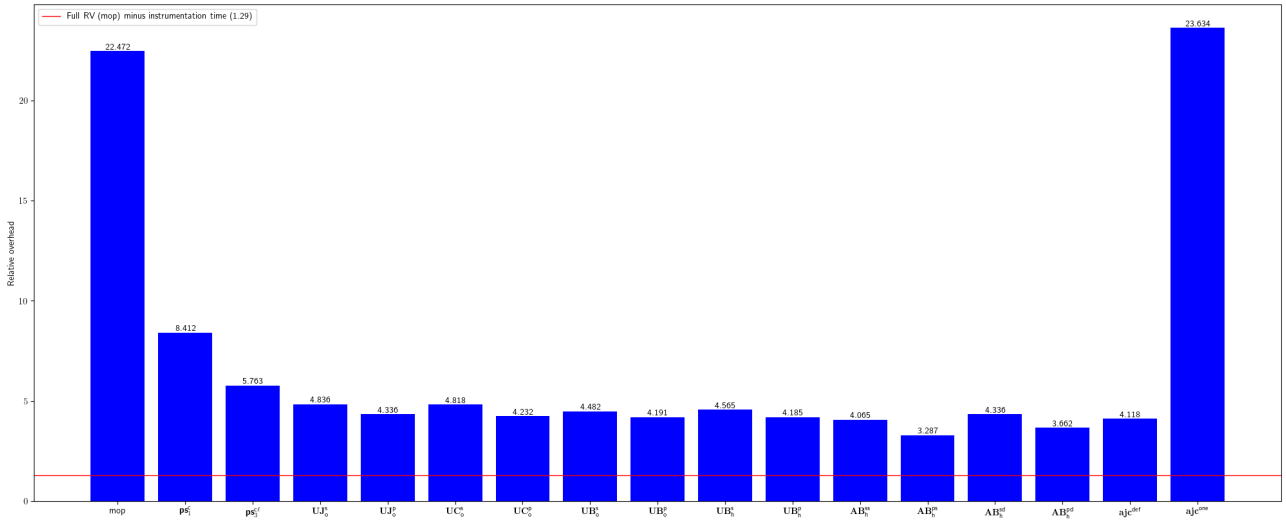

Fig. 57: Relative overhead for microfocus-idol-java-configuration-impl

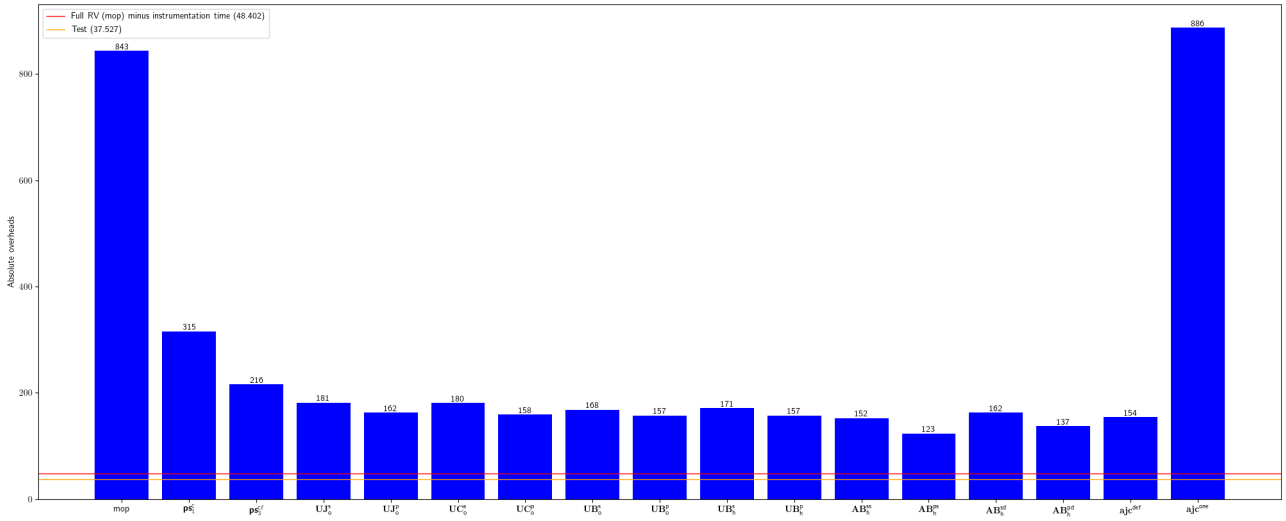

Fig. 58: Absolute overhead for microfocus-idol-java-configuration-impl

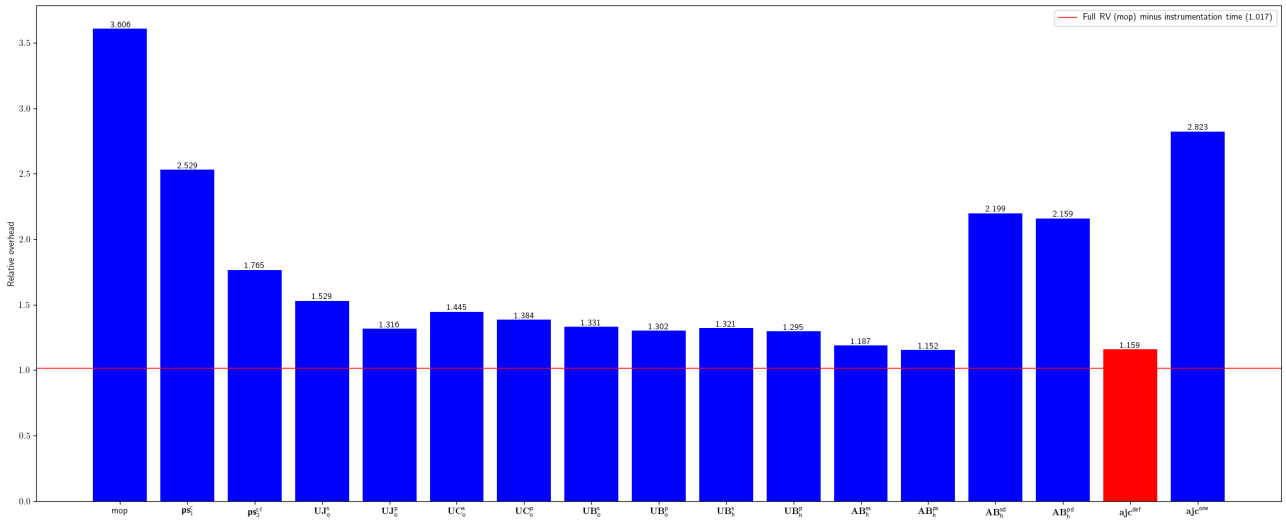

Fig. 59: Relative overhead for mitre-HTTP-Proxy-Servlet

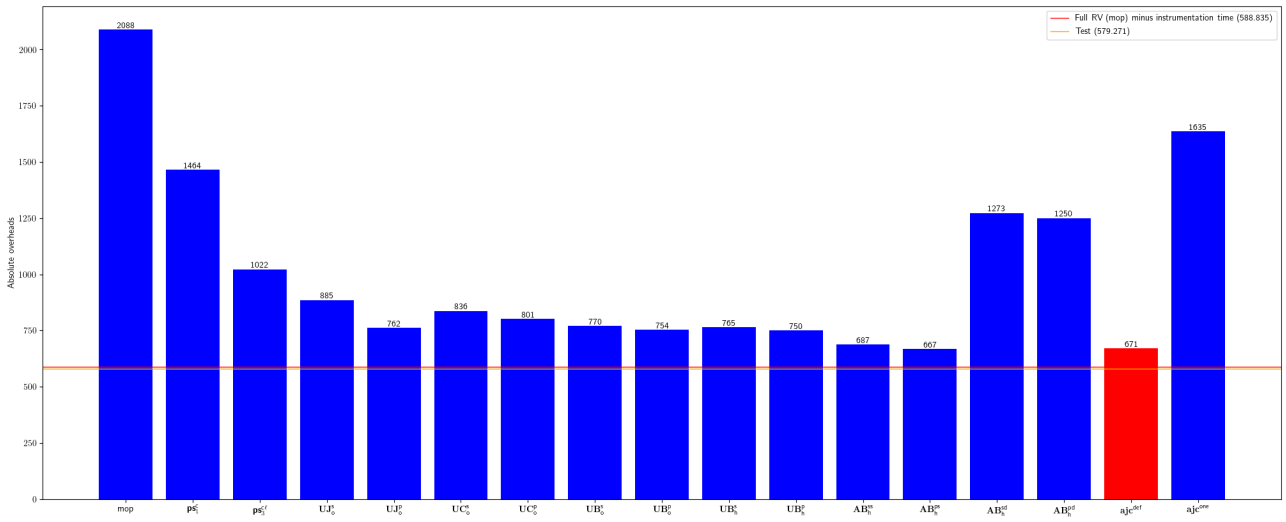

Fig. 60: Absolute overhead for mitre-HTTP-Proxy-Servlet

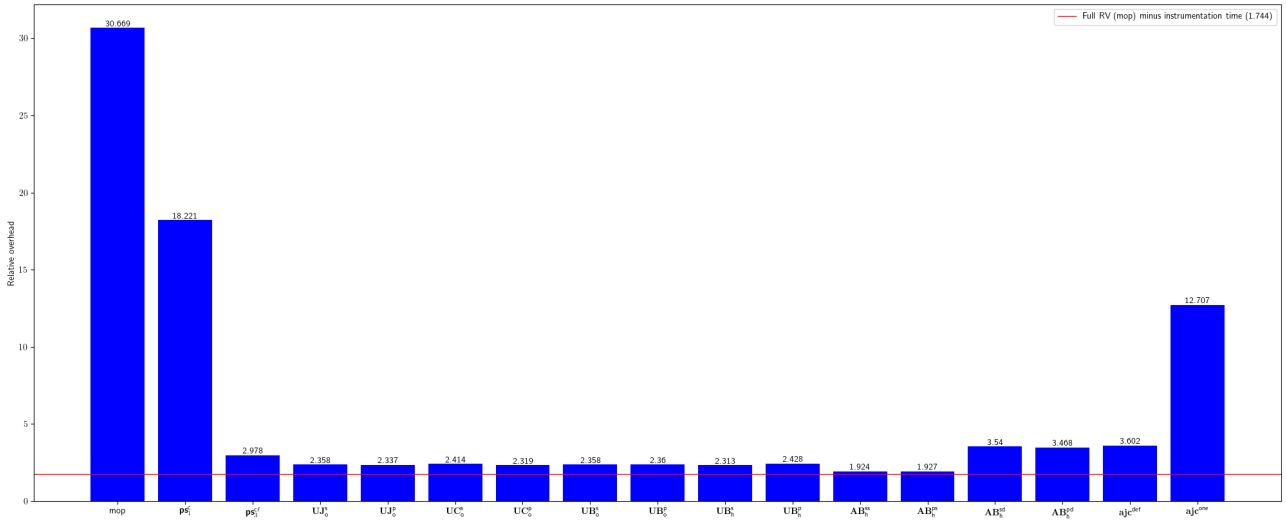

Fig. 61: Relative overhead for Pablissimo-SonarTsPlugin

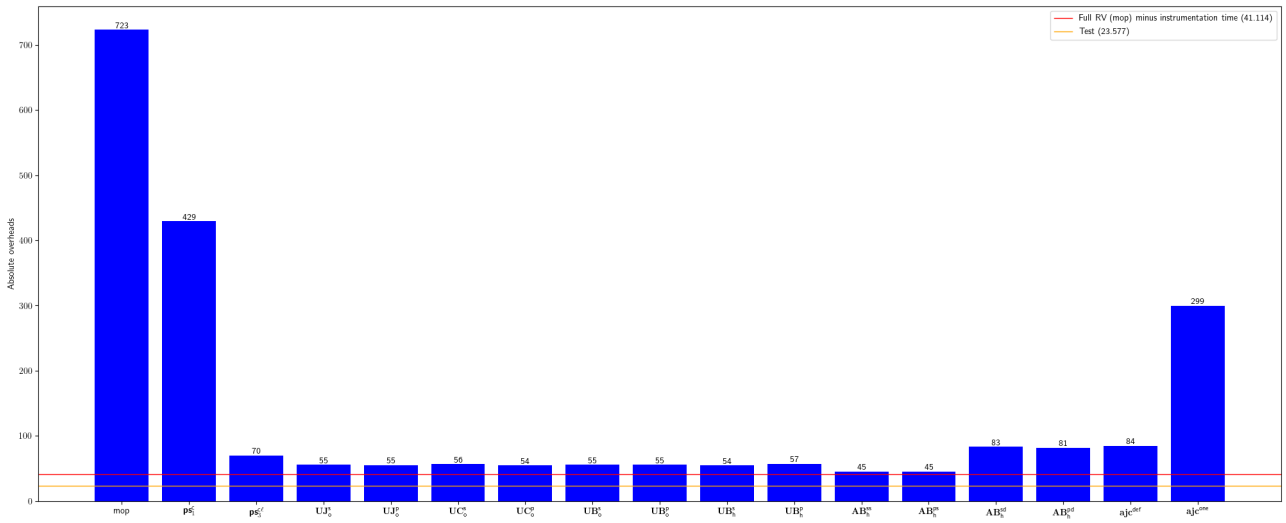

Fig. 62: Absolute overhead for Pablissimo-SonarTsPlugin

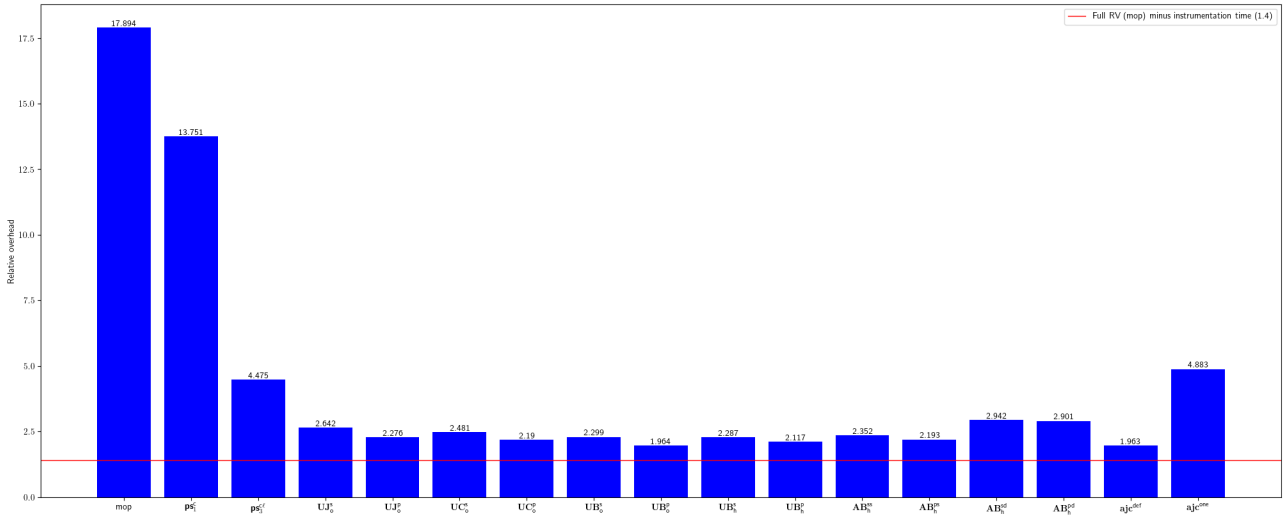

Fig. 63: Relative overhead for pagehelper-Mybatis-PageHelper

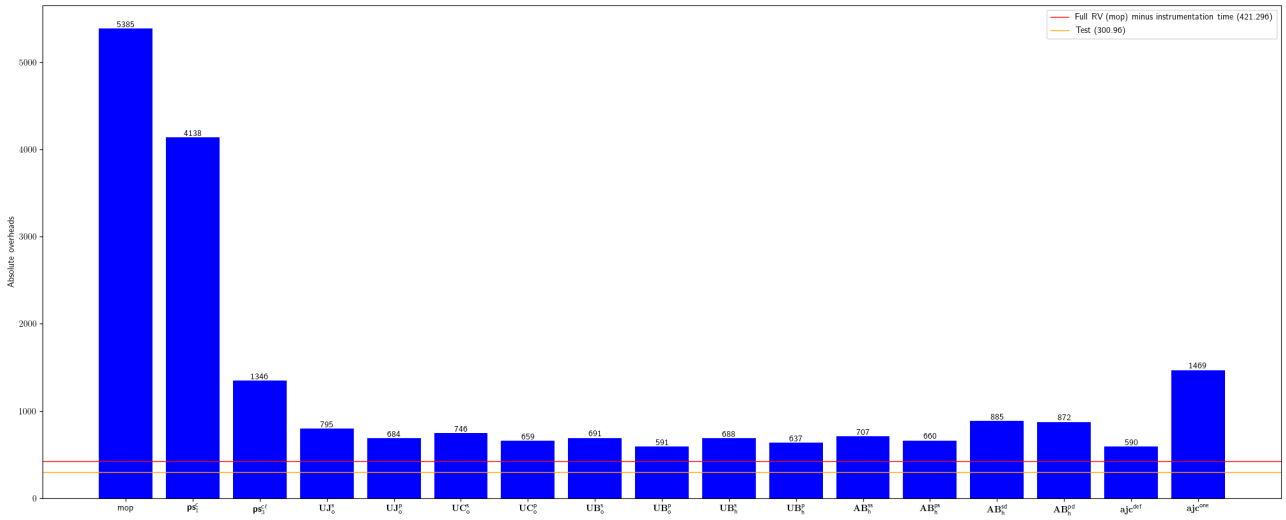

Fig. 64: Absolute overhead for pagehelper-Mybatis-PageHelper

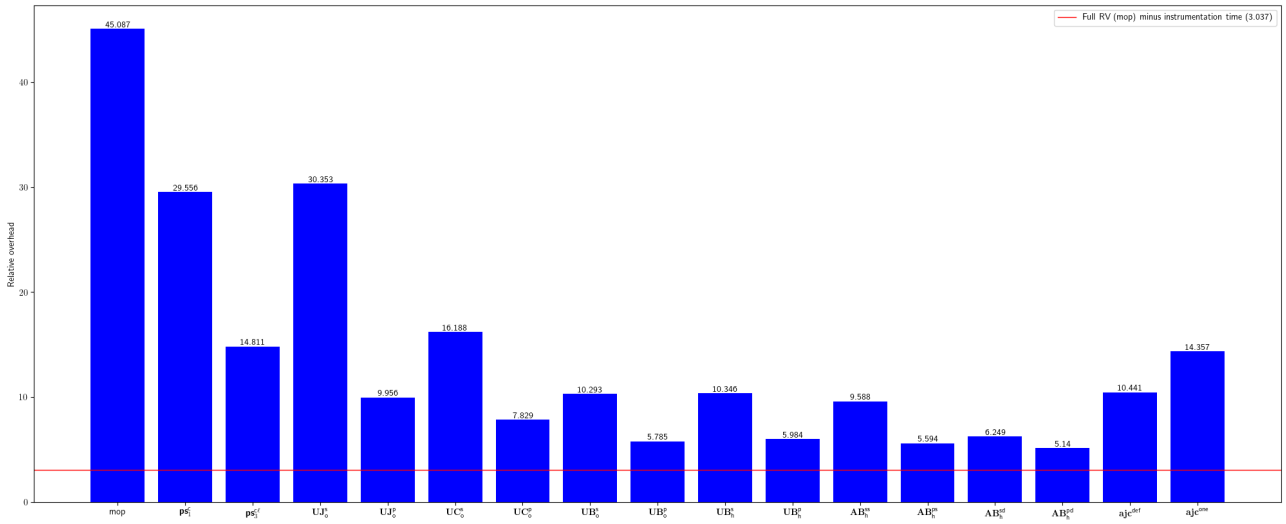

Fig. 65: Relative overhead for qoomon-banking-swift-messages-java

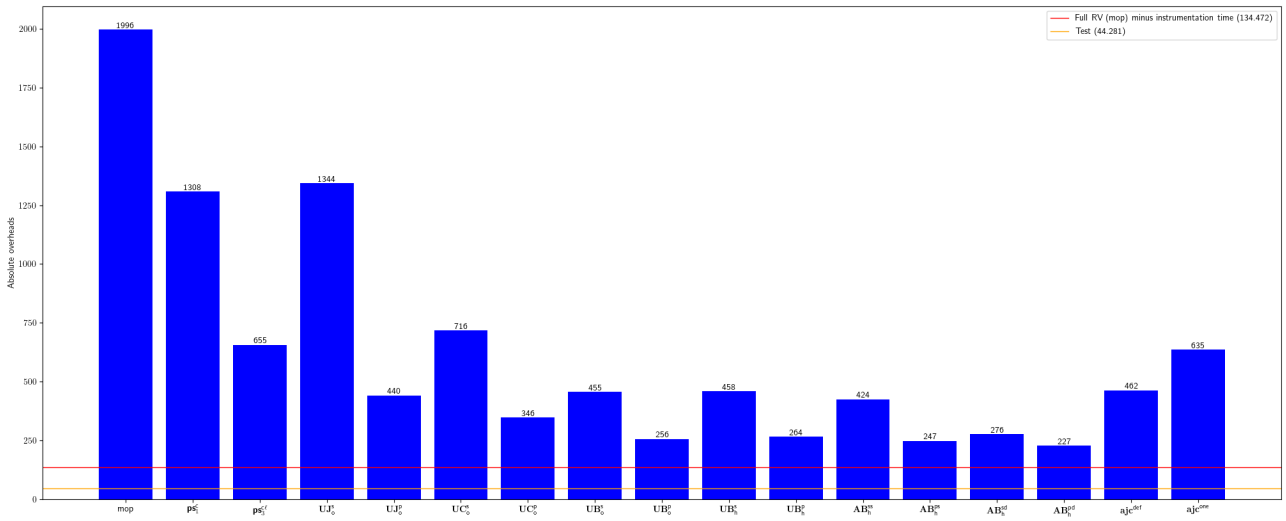

Fig. 66: Absolute overhead for qoomon-banking-swift-messages-java

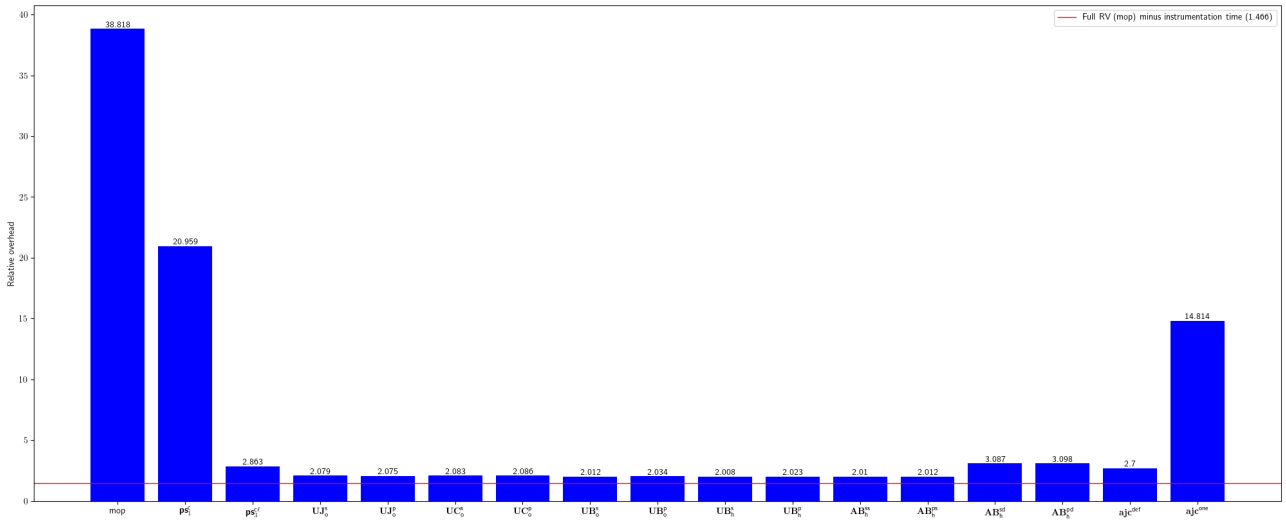

Fig. 67: Relative overhead for sailthru-sailthru-java-client

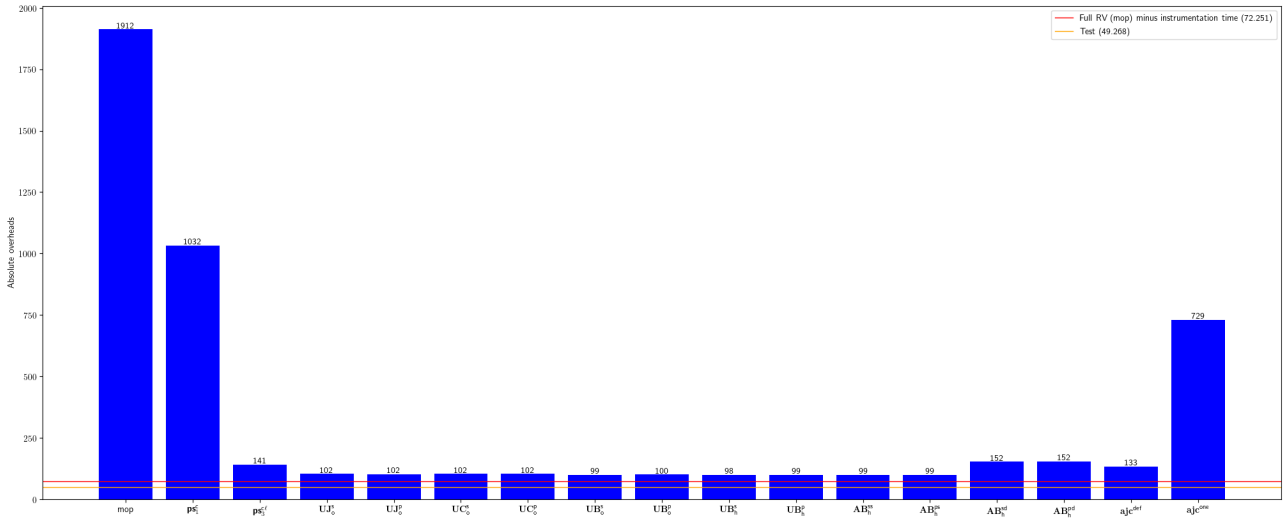

Fig. 68: Absolute overhead for sailthru-sailthru-java-client

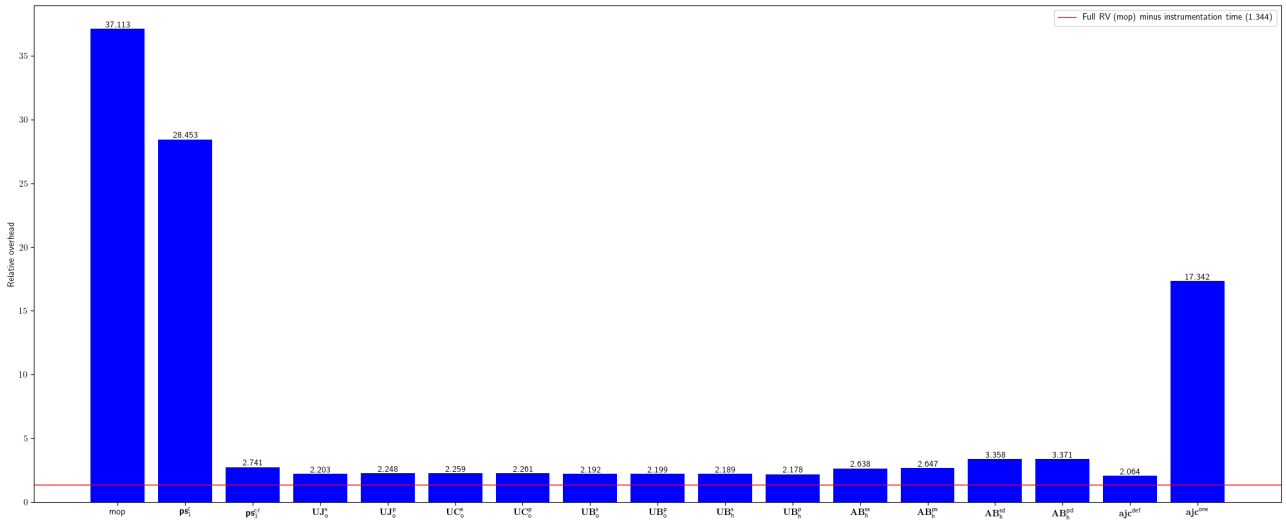

Fig. 69: Relative overhead for sblendorio-petscii-bbs

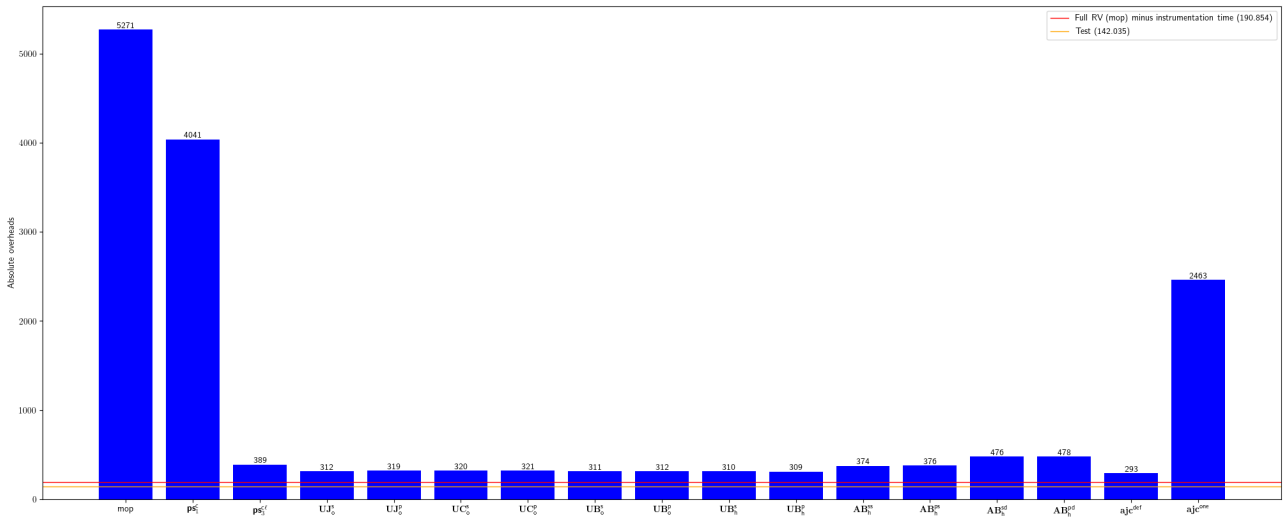

Fig. 70: Absolute overhead for sblendorio-petscii-bbs

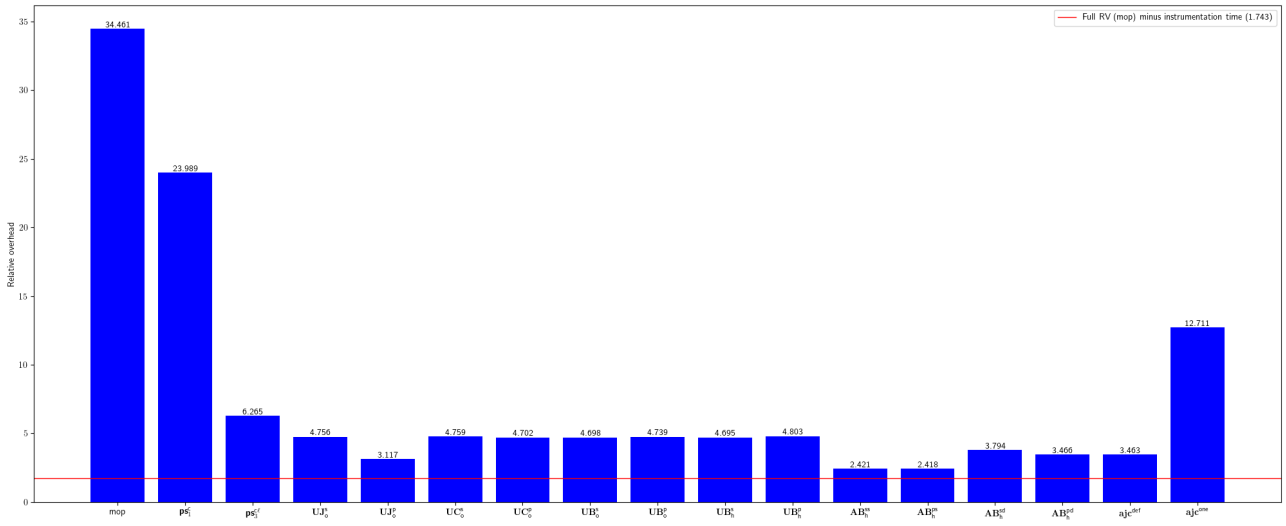

Fig. 71: Relative overhead for sigopt-sigopt-java

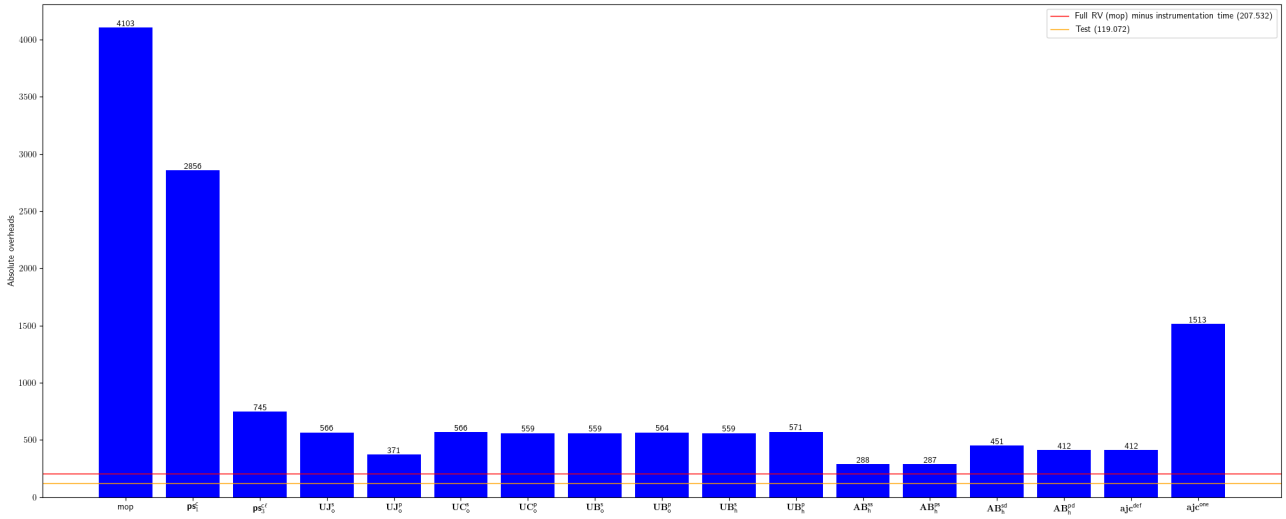

Fig. 72: Absolute overhead for sigopt-sigopt-java

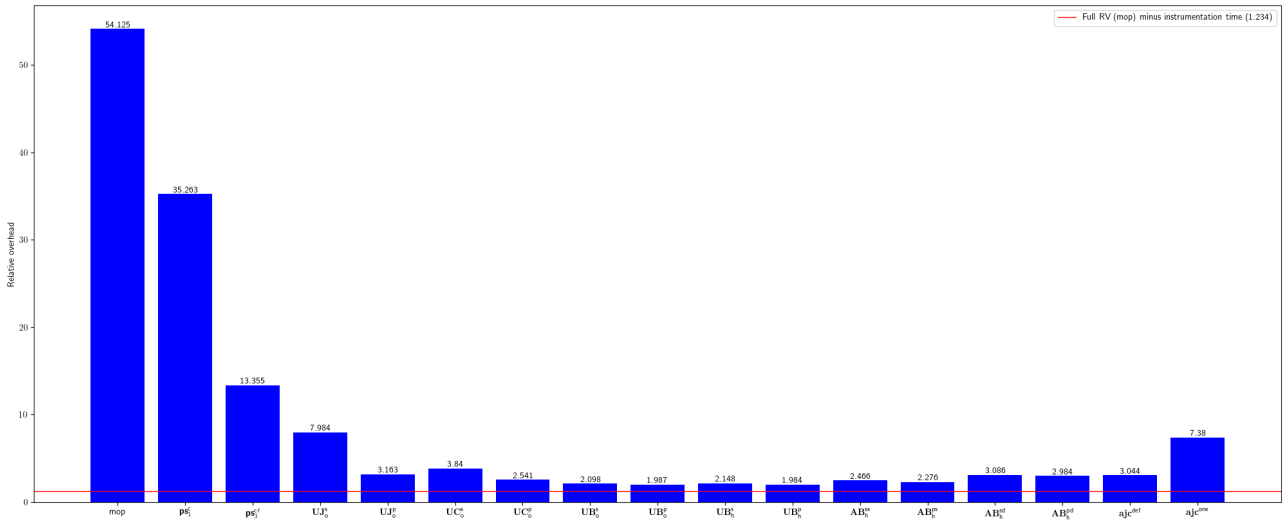

Fig. 73: Relative overhead for smartystreets-smartystreets-java-sdk

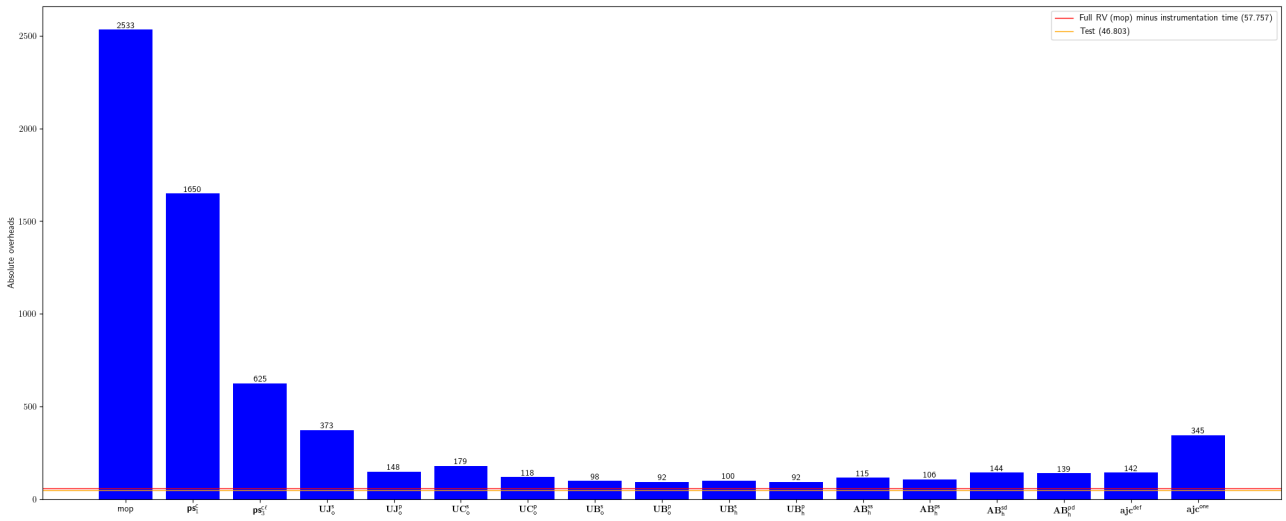

Fig. 74: Absolute overhead for smartystreets-smartystreets-java-sdk

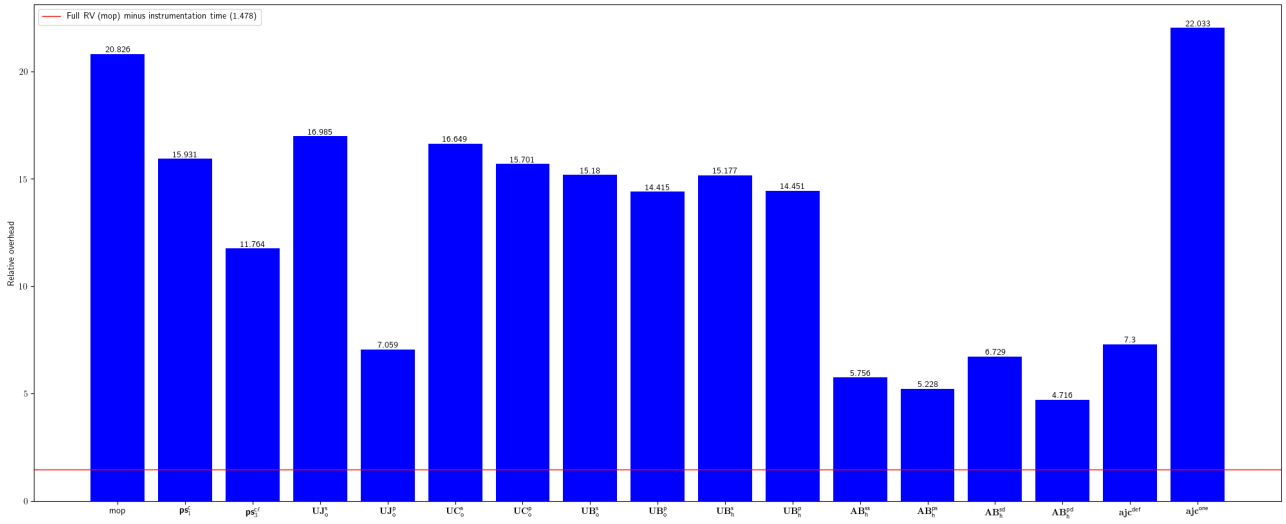

Fig. 75: Relative overhead for soot-oss-heros

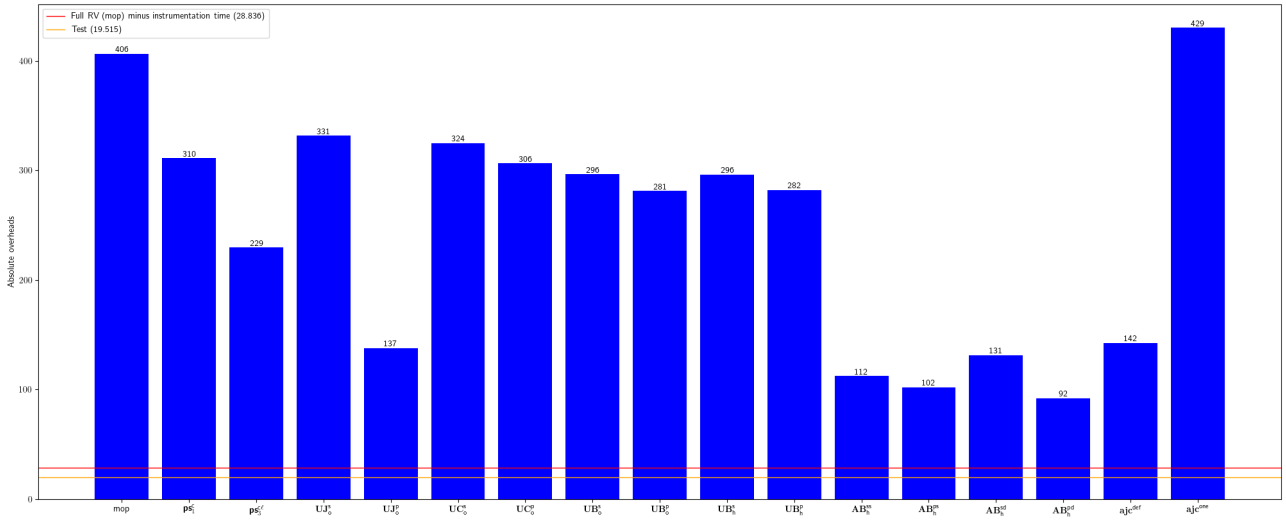

Fig. 76: Absolute overhead for soot-oss-heros

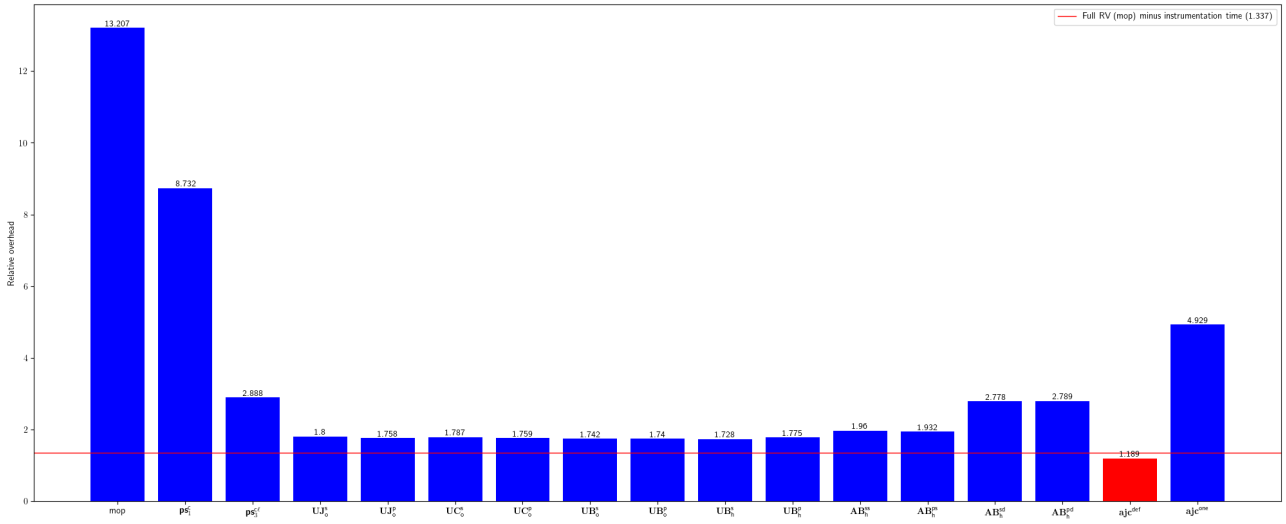

Fig. 77: Relative overhead for square-javapoet

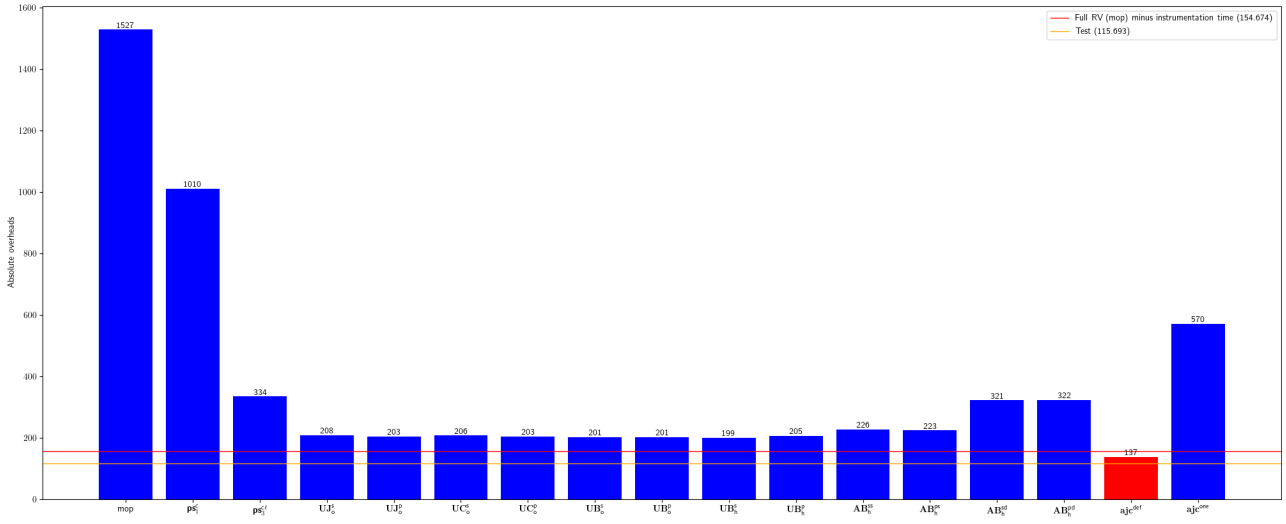

Fig. 78: Absolute overhead for square-javapoet

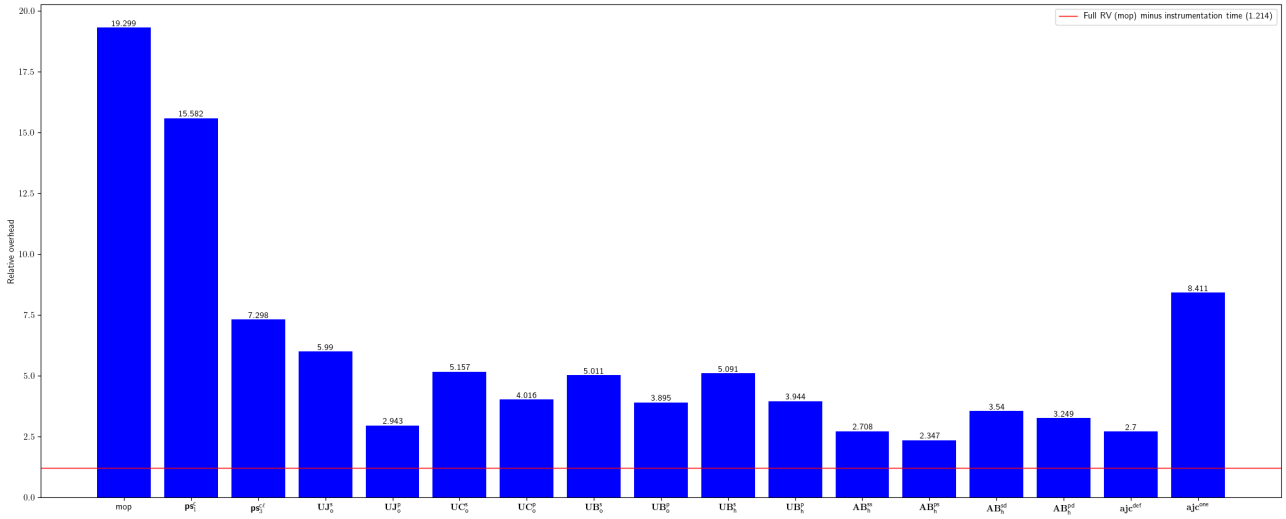

Fig. 79: Relative overhead for studerw-td-ameritrade-client

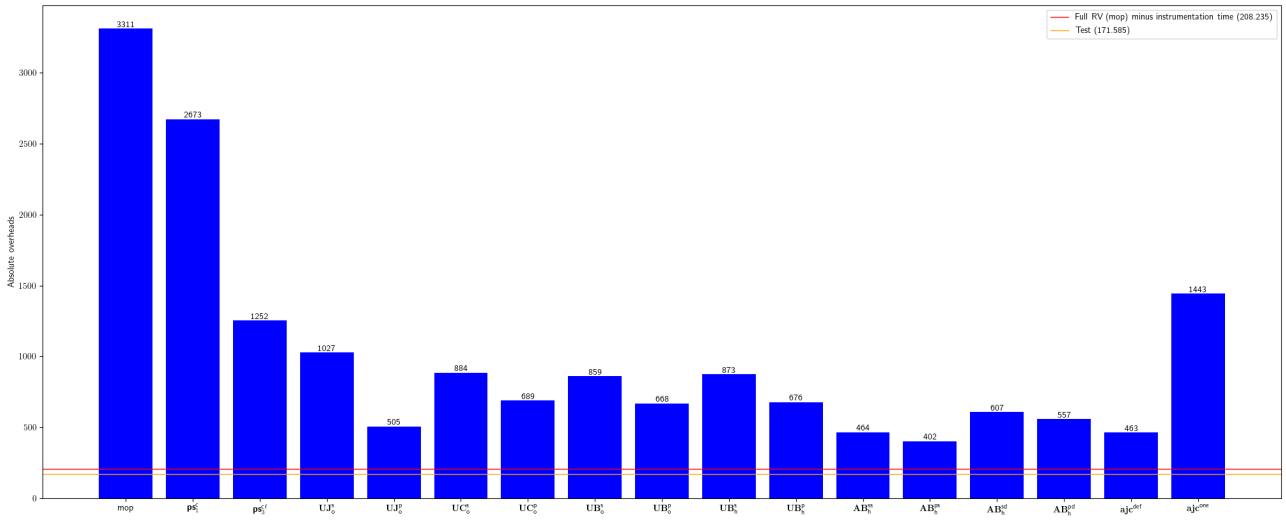

Fig. 80: Absolute overhead for studerw-td-ameritrade-client

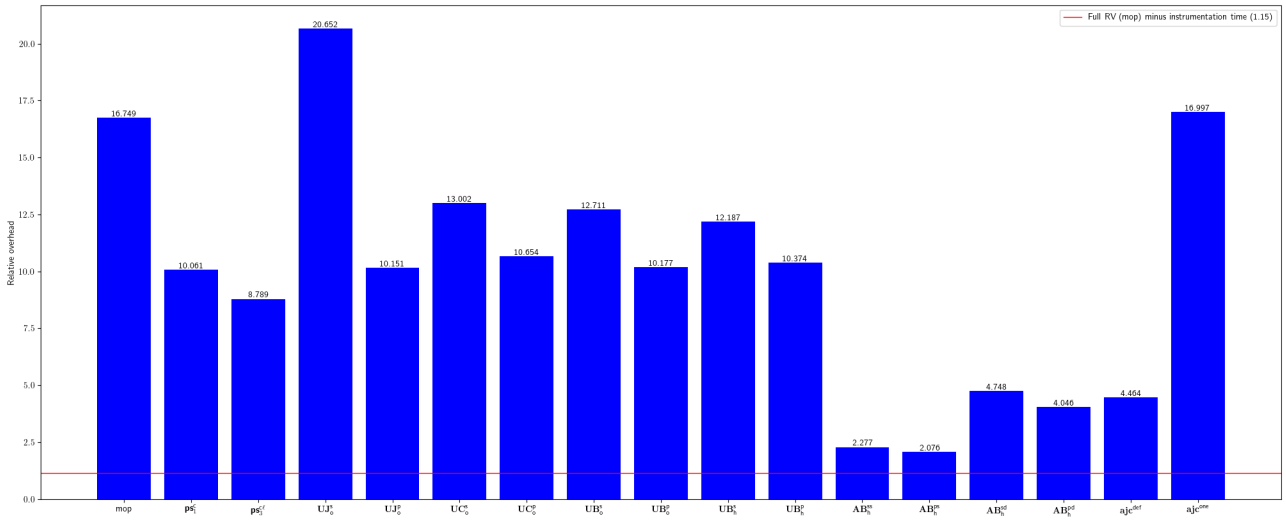

Fig. 81: Relative overhead for timmolter-Yank

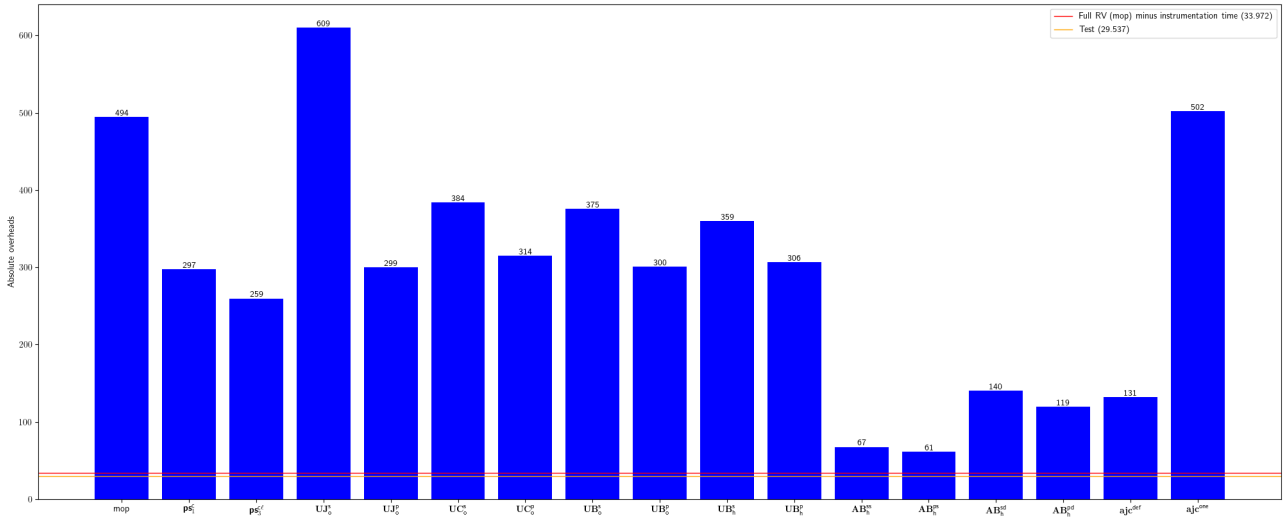

Fig. 82: Absolute overhead for timmolter-Yank

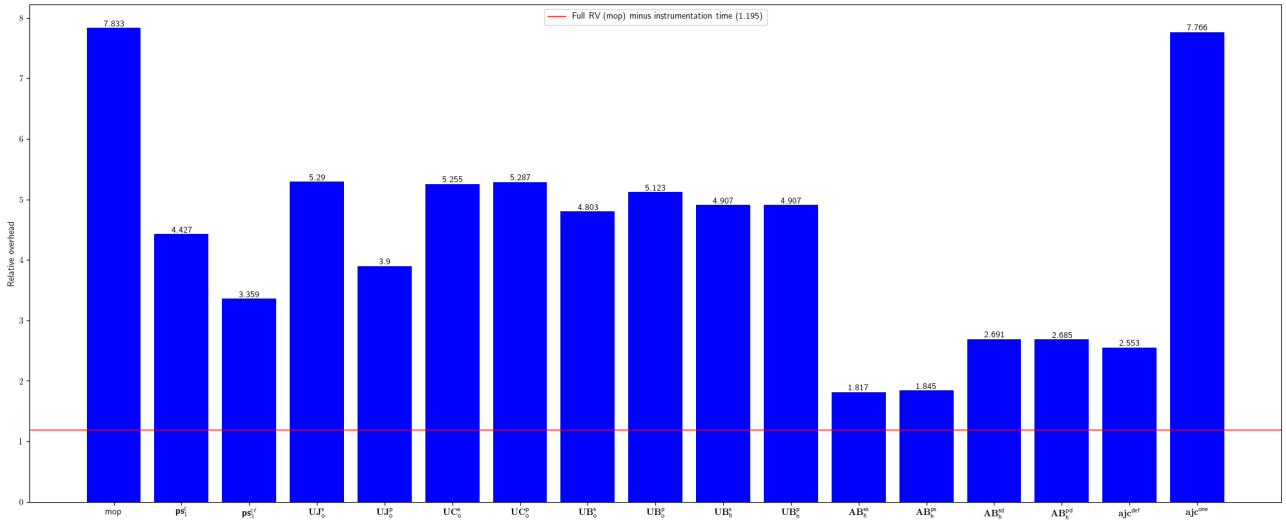

Fig. 83: Relative overhead for TNG-property-loader

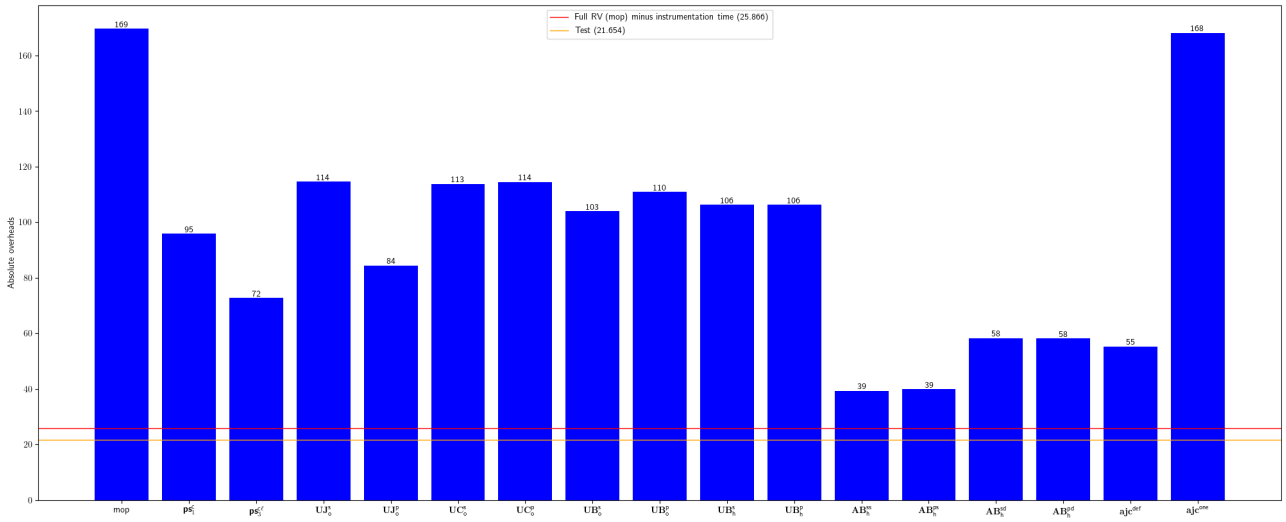

Fig. 84: Absolute overhead for TNG-property-loader

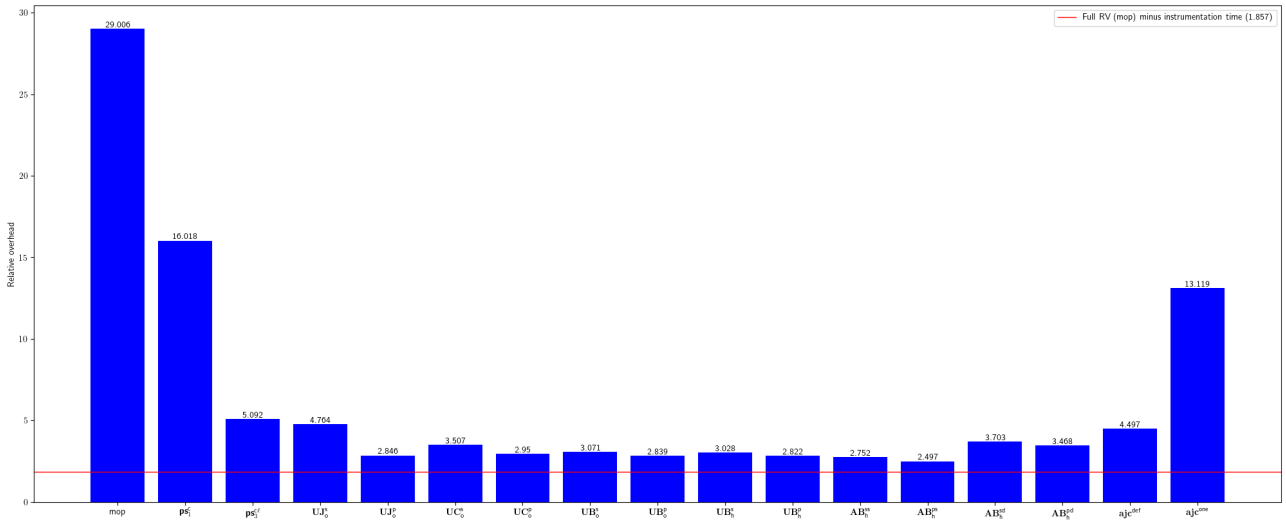

Fig. 85: Relative overhead for valfirst-jbehave-junit-runner

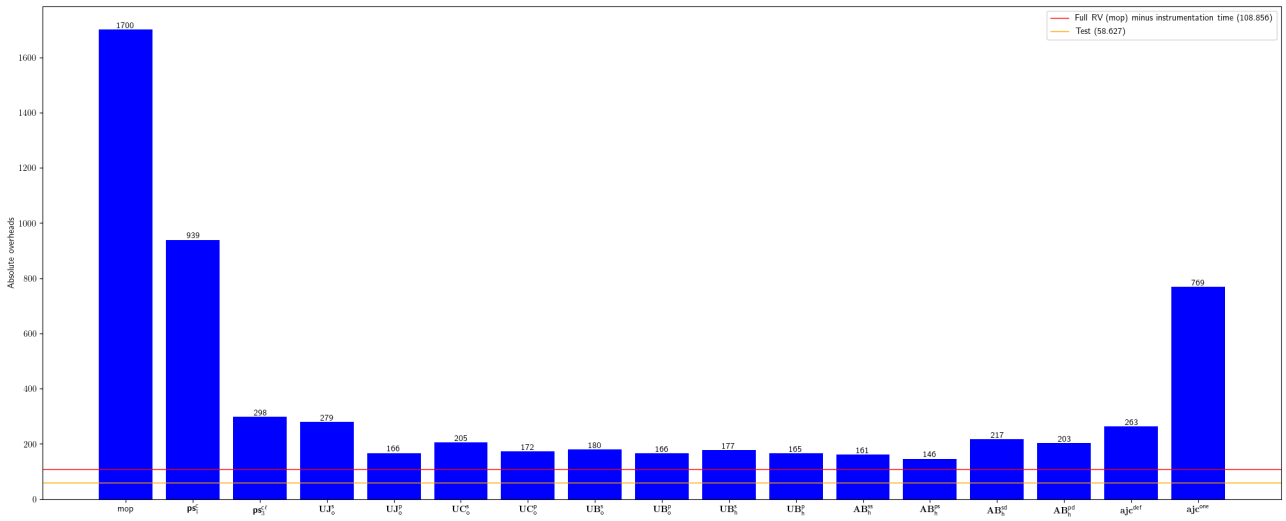

Fig. 86: Absolute overhead for valfirst-jbehave-junit-runner

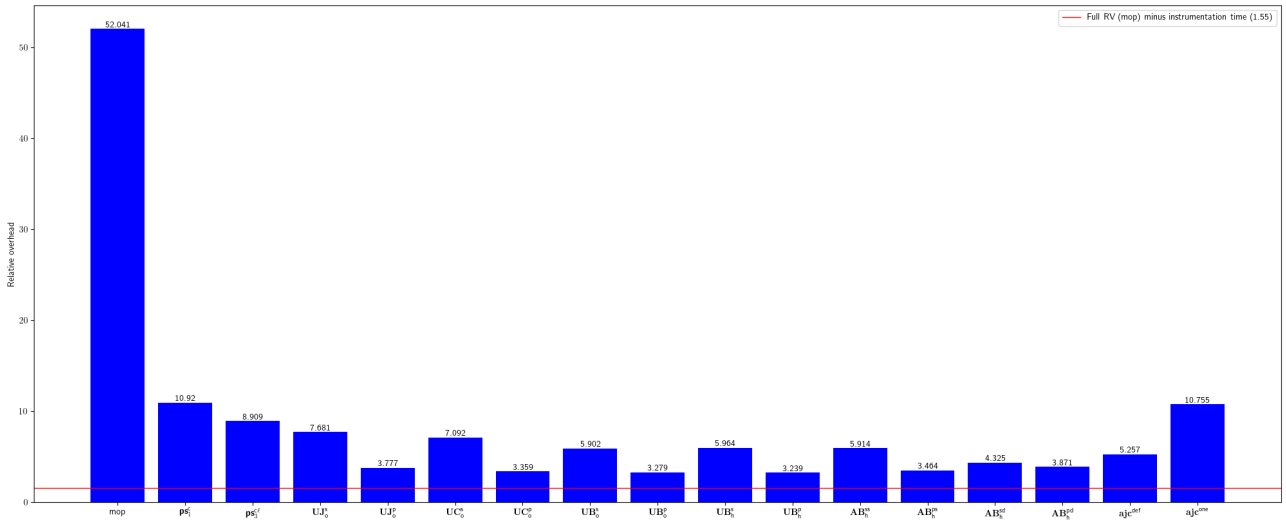

Fig. 87: Relative overhead for vaulttec-sonar-auth-oidc

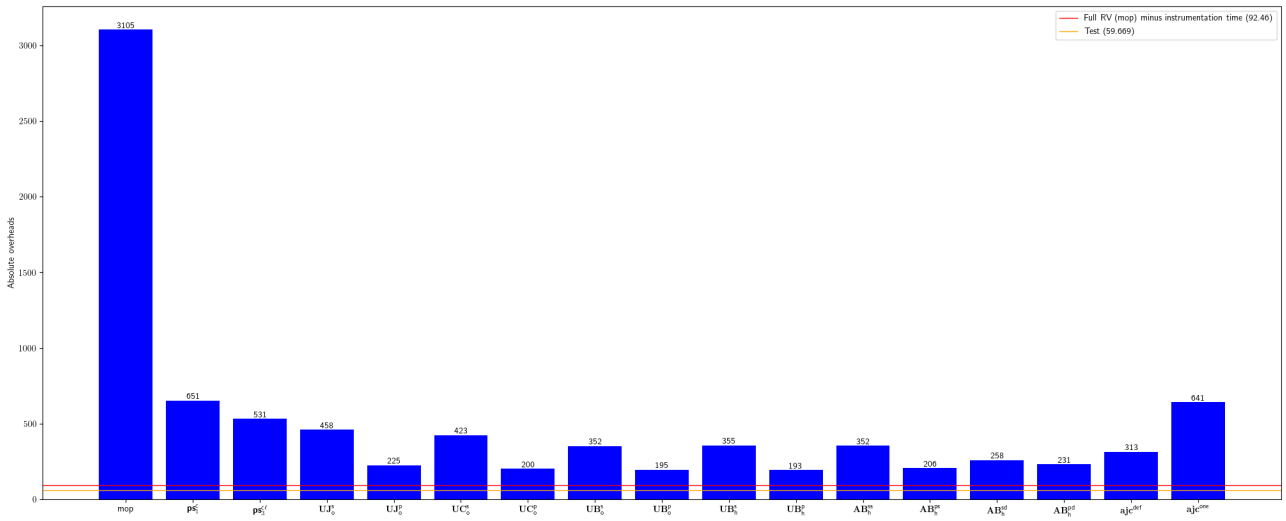

Fig. 88: Absolute overhead for vaulttec-sonar-auth-oidc

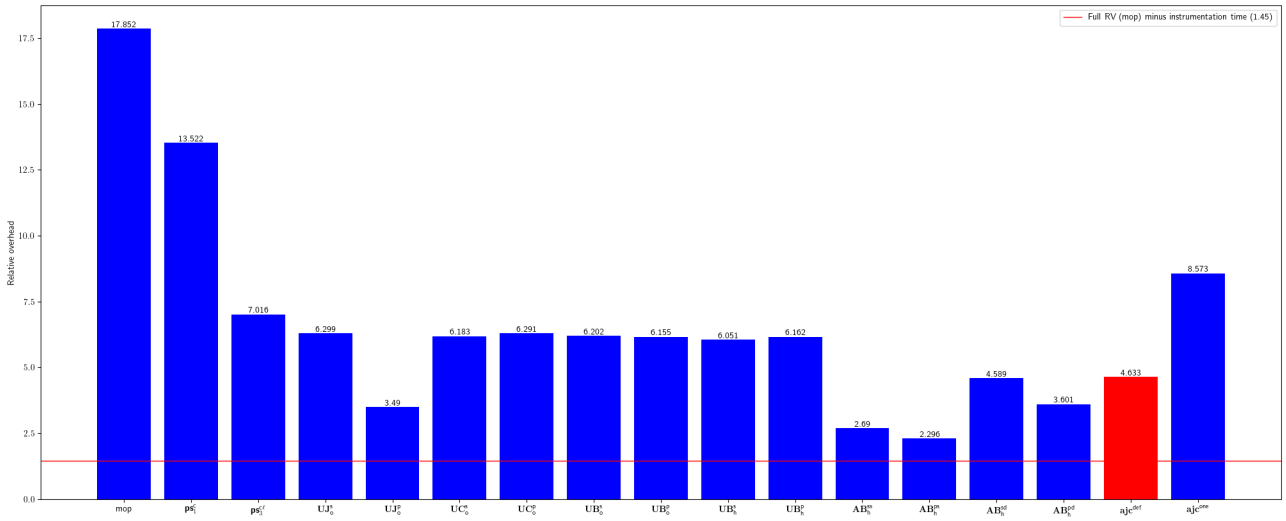

Fig. 89: Relative overhead for venushka-jmxeval

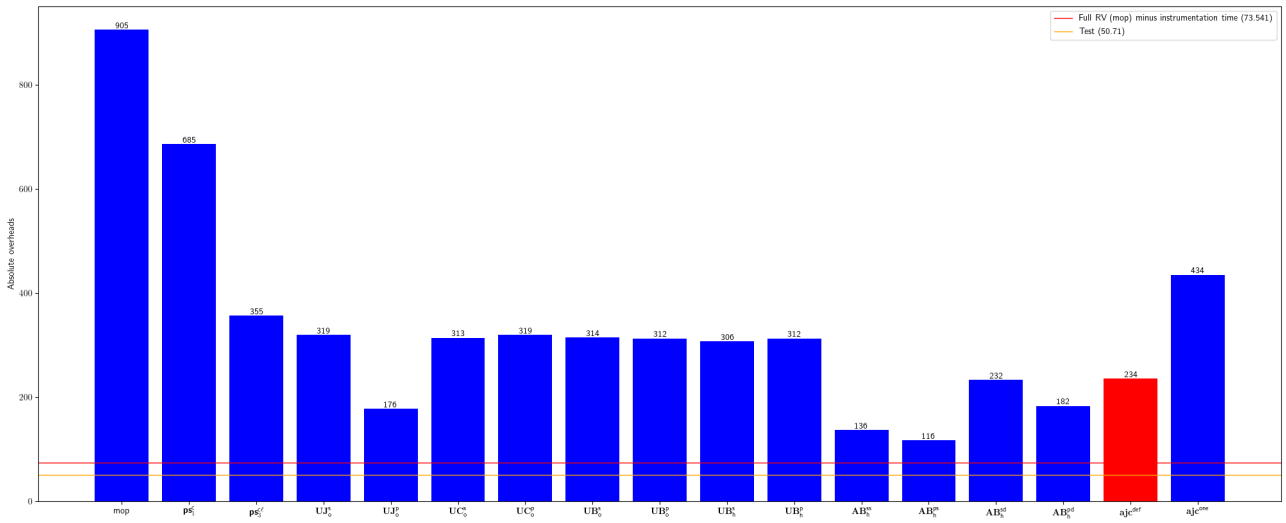

Fig. 90: Absolute overhead for venushka-jmxeval

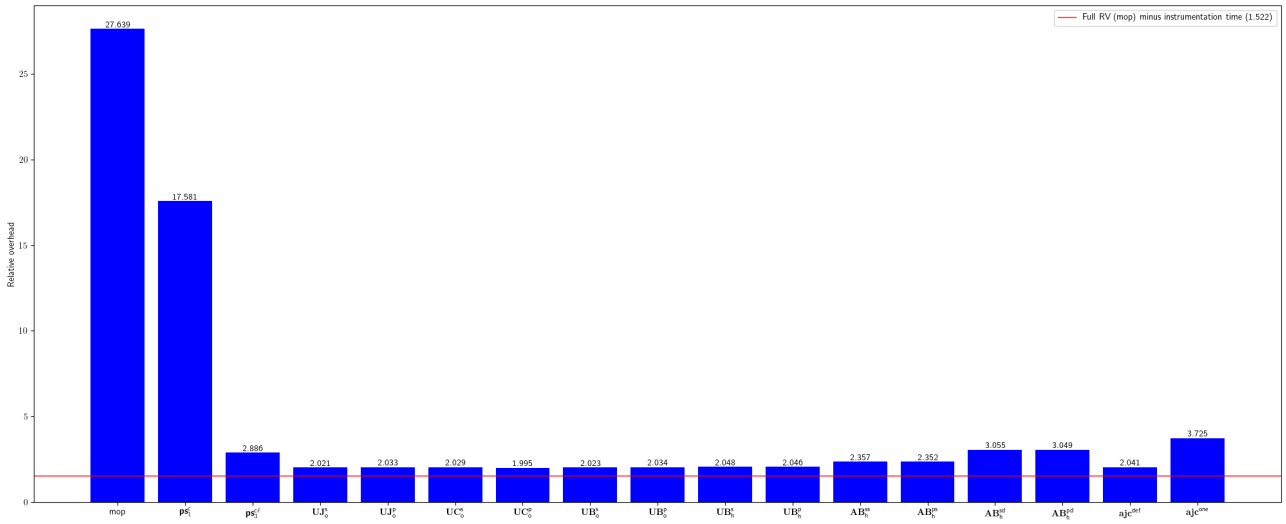

Fig. 91: Relative overhead for visenze-visearch-sdk-java

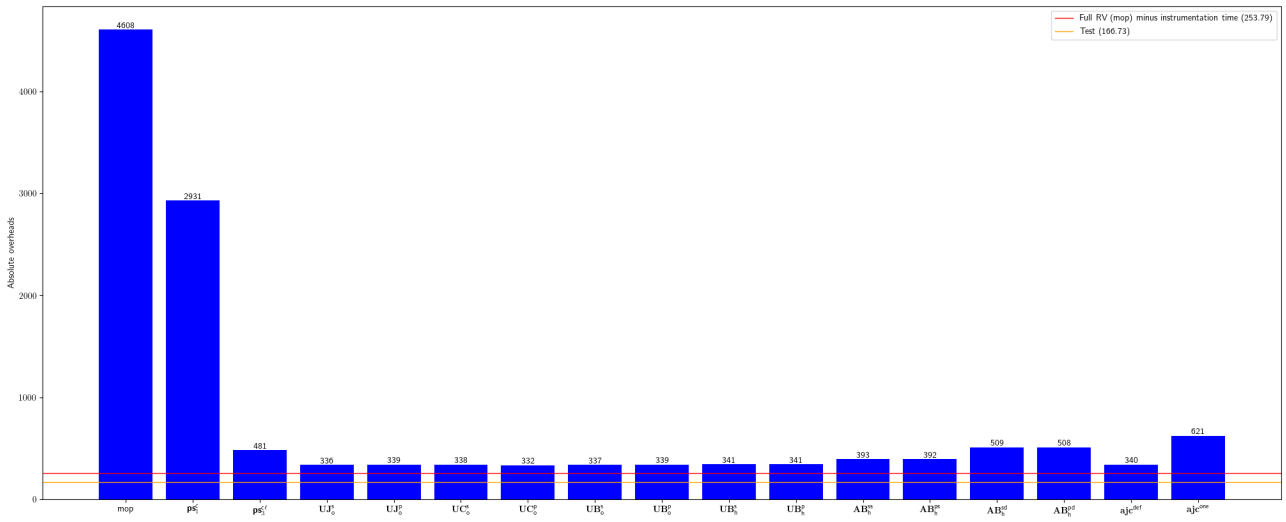

Fig. 92: Absolute overhead for visenze-visearch-sdk-java

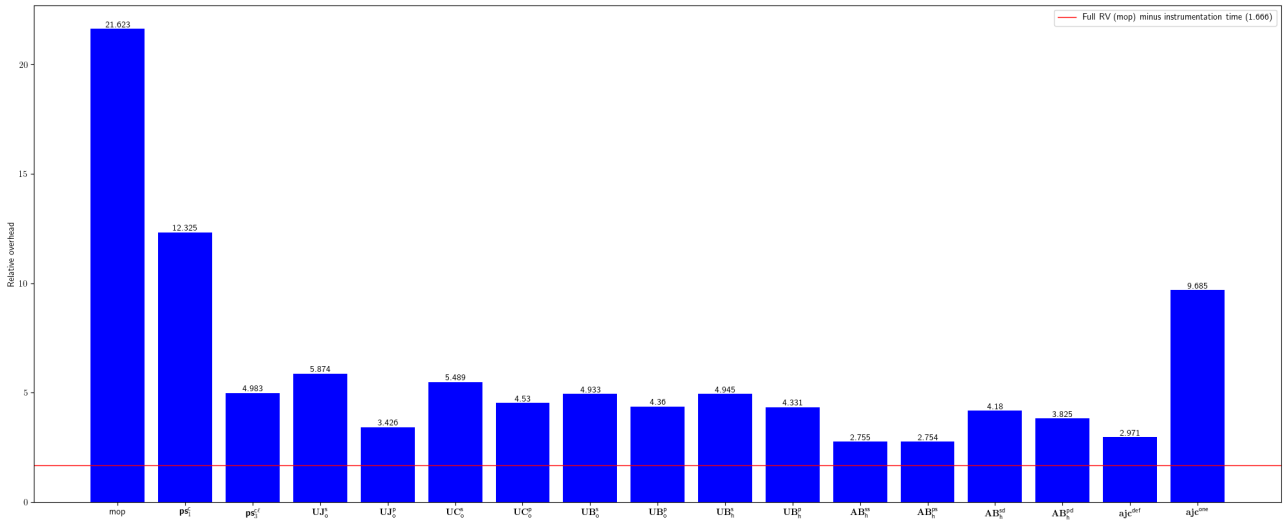

Fig. 93: Relative overhead for walmartlabs-gozer

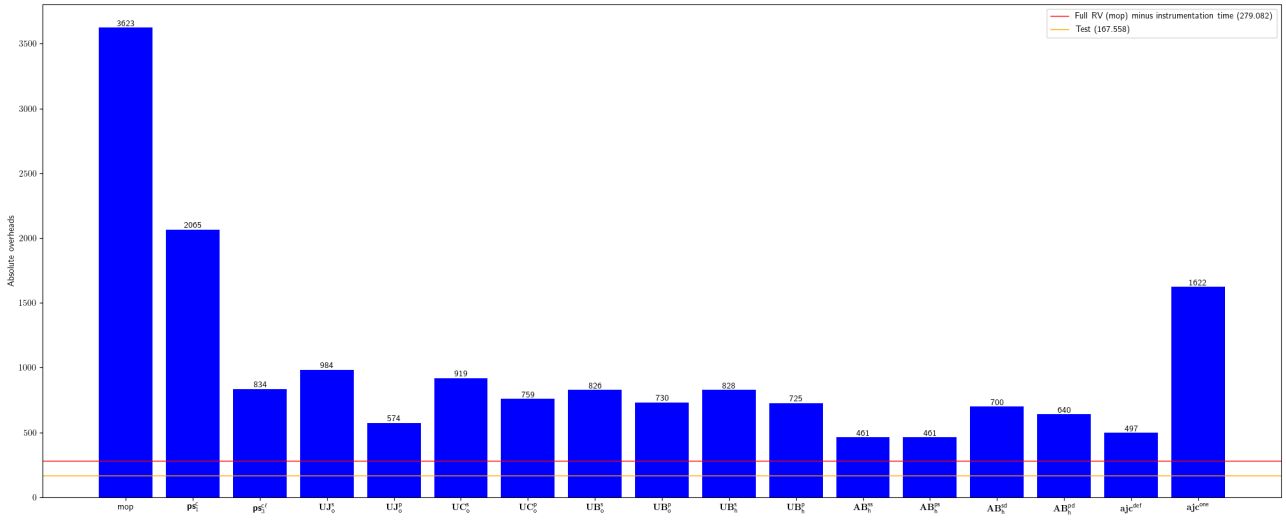

Fig. 94: Absolute overhead for walmartlabs-gozer

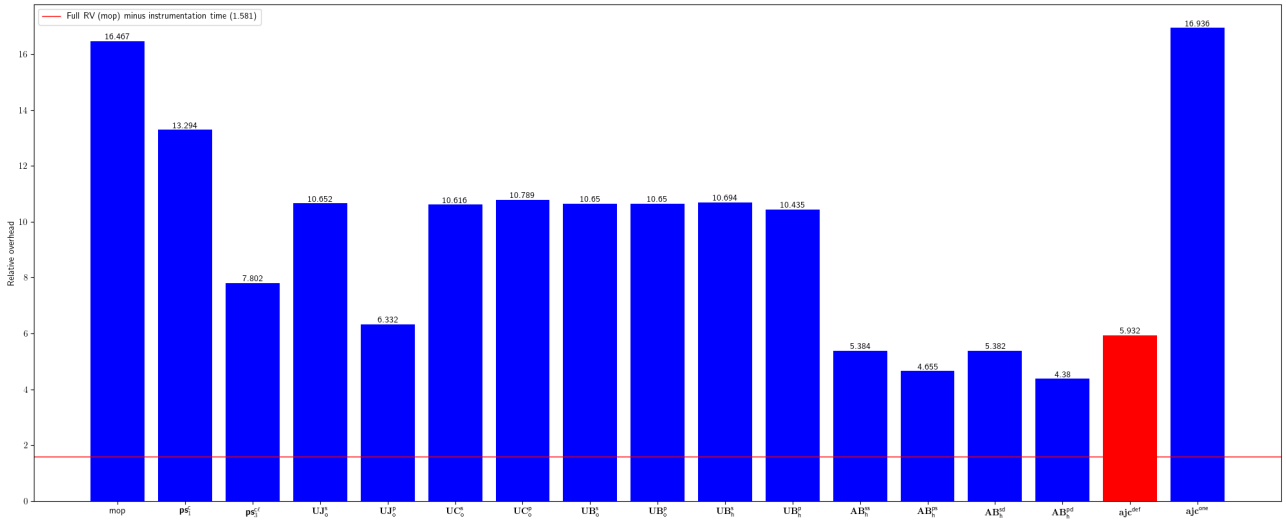

Fig. 95: Relative overhead for weswilliams-GivWenZen

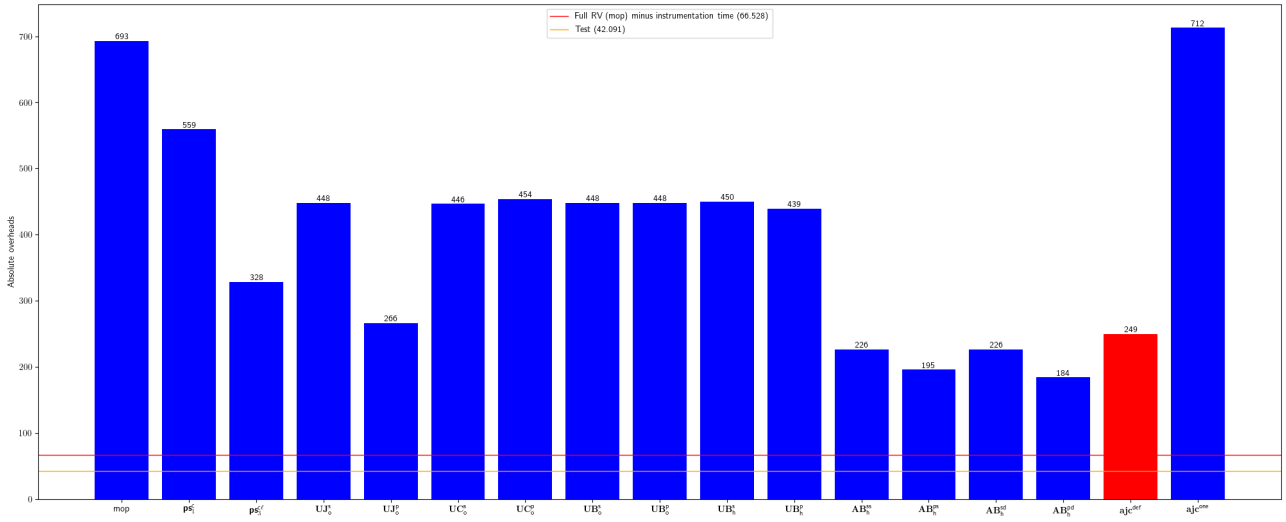

Fig. 96: Absolute overhead for weswilliams-GivWenZen

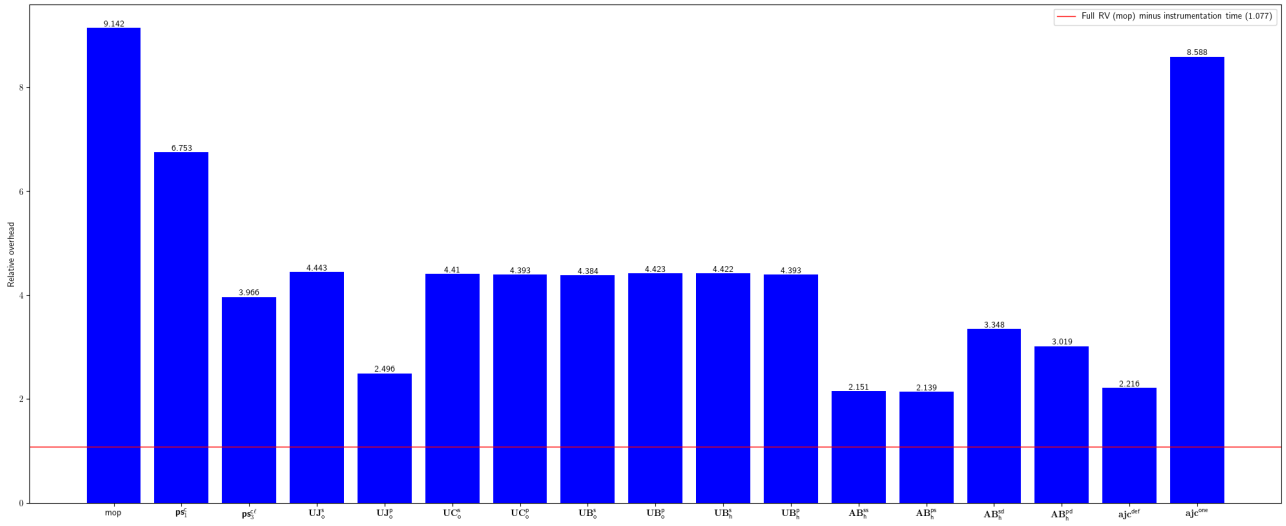

Fig. 97: Relative overhead for whizzosoftware-WZWave

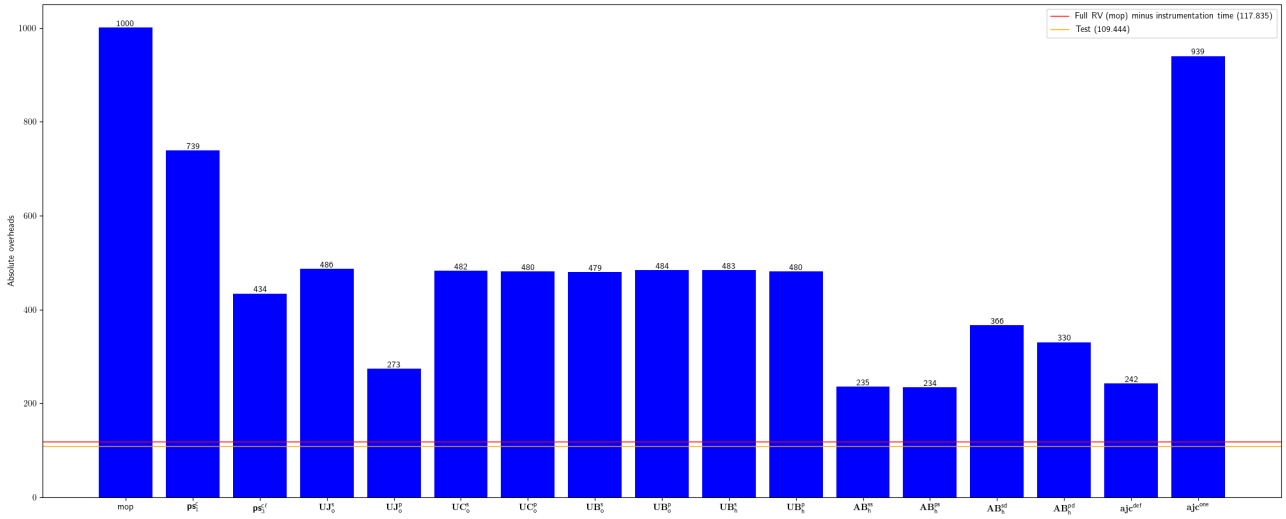

Fig. 98: Absolute overhead for whizzosoftware-WZWave