® 视频特性TI(时间信息)和SI(空间信息)的计算工具:TlandSI

2013年06月08日 15:49:55 阅读数:9069

TI (时间信息)和SI (空间信息)计算工具文章列表:

视频特性TI(时间信息)和SI(空间信息)的计算工具:TlandSI

视频特性TI(时间信息)和SI(空间信息)的计算工具:TlandSI-压缩码流版

做视频评价试验的时候,需要根据一定的条件选择有代表性的视频序列。ITU-R BT.1788建议使用时间信息(TI, Temporal perceptual Information,也可以称时间复杂度)和空间信息(SI,Spatial perceptual Information,也可以称空间复杂度)来衡量视频的特性。

TI, SI概念出处《ITU-R BT.1788 建议书》: http://download.csdn.net/detail/leixiaohua1020/6423425

项目主页

SourceForge: https://sourceforge.net/projects/tiandsi/

Github: https://github.com/leixiaohua1020/TlandSI

开源中国: http://git.oschina.net/leixiaohua1020/TlandSI



TI和SI的概念

SI表征一帧图像的空间细节量。空间上越复杂的场景,SI值越高。

TI表征视频序列的时间变化量。运动程度较高的序列通常会有更高的TI值。

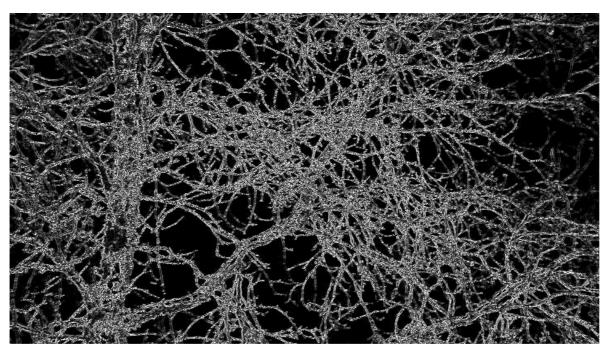
SI计算方法:对第n帧视频进行Sobel滤波,然后对滤波后图像计算标准差。选这些帧中的最大值为SI。

TI计算方法:求n与n-1帧图像的帧差,然后对帧差图像计算标准差。选这些帧中的最大值为TI。

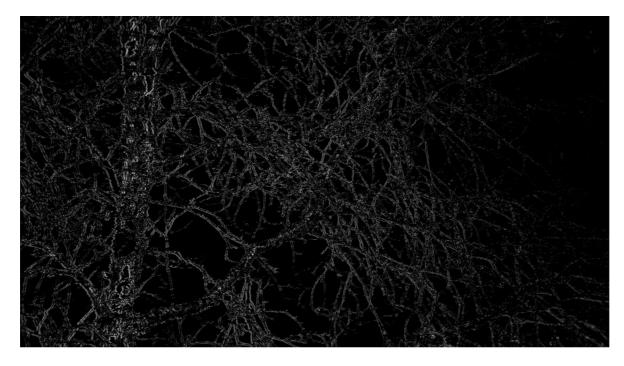
以下截图分别显示Sobel滤波和帧差结果:



Sobel滤波后结果(反映空间信息,即空间上的复杂度):



帧差的结果(反映时间信息,即时间上的复杂度):



附带我们实验室自己编写的图形界面的计算SI和TI的工具(程序+源代码,工程是vs2010的):

TlandSI 1.0: http://download.csdn.net/detail/leixiaohua1020/5546783

TISIcmd (TISI计算工具-命令行版)

最初的工具是图形界面的,但是发现图形界面也不是特别方便,直接用命令行进行批处理会更方便些,因此拜托师弟把代码抽取出来做了个控制台 程序。师弟也很给力,迅速就搞了出来,在这里上传上来。

可以直接使用的exe: http://download.csdn.net/detail/leixiaohua1020/7686483

源代码 (VS2010) : http://download.csdn.net/detail/leixiaohua1020/7686489

使用帮助

- -i 输入YUV文件的路径(必填)
- -x 输入YUV文件的宽度(必填)
- -y 输入YUV文件的高度(必填)
- -f 输入YUV文件的像素格式(必填,420或422或444或400)
- -h 打开帮助

示例

命令行工具命令示例如下,计算了一个分辨率为1920x1080,像素为格式YUV420P,路径为D:\test.yuv的YUV格式的文件。



界面截图如下:

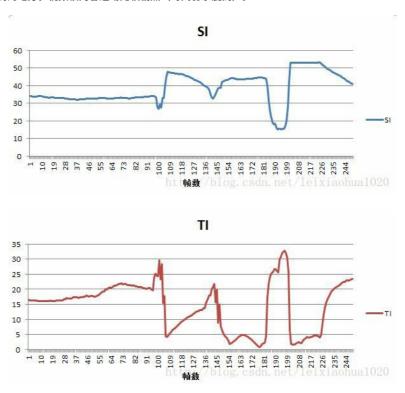
帮助菜单



运行时截图

运行完毕后会在测试序列相同的目录下生成*.csv的结果文件。

输出的数据可以使用Excel进行统计,如下示例统计了某个视频序列的TI,SI和视频帧序号之间的关系。SI较高的地方,视频帧画面的空间细节比较 多(空间复杂度高)。TI较高的地方,视频帧内容运动比较剧烈(时间复杂度高)。



TlandSI 2.0 (TISI计算工具-图形界面版)

近期一直在研究视频的时间信息(TI)和空间信息(SI)方面的问题。发现老版本计算TISI的图形界面工具不是很方便。于是心血来潮对其进行了大规模的修改。经过一段时间的反复调试,终于将其做成了自己认为方便好用的计算TI和SI的图形界面工具,命名为 TlandSI 2.0。在这里记录上详细的使用方法。

2.0更新记录:

- *删除了旧版里的TeeChart,感觉作用不大
- *增加了TI和SI计算过程预览窗口,可以查看TI和SI的计算过程。
- *增加了计算过程进度条
- *支持多种格式的YUV视频输入:YUV420P,YUV422P,YUV444P,Y
- *支持批量添加YUV视频
- *增加了"结果"对话框,可以直接在程序中查看TI和SI计算结果
- *增加了"暂停","继续","停止"等按钮,可以控制计算的进度

可以直接使用的exe: http://download.csdn.net/detail/leixiaohua1020/7817721

源代码 (VS2010) : http://download.csdn.net/detail/leixiaohua1020/7817741

使用帮助

双击"TlandSl.exe"打开程序之后,界面如图所示。分成如下几个部分:

添加视频:添加待处理的YUV视频。包括设置视频的地址,宽,高,像素格式(YUV420P,YUV422P,YUV444P,Y)。

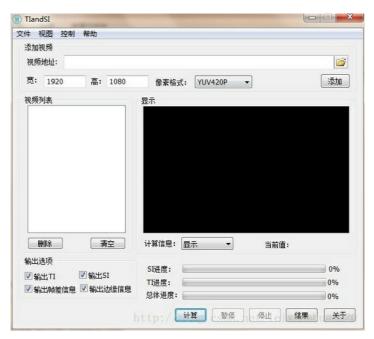
视频列表:列表显示待处理的YUV视频。可以删除和清空其中的条目。

显示:可以图形化显示TI和SI的计算信息,即帧差信息和边缘信息。注意会降低计算的速度。

输出选项:"输出TI","输出SI"可以将计算结果保存为.csv的文件。可以使用Excel对这种文件进行处理。"输出帧差信息","输出边缘信息"可以将帧 差信息和边缘信息保存为YUV文件。

进度条:显示计算的进度。

控制按钮:控制计算的开始,暂停,继续,停止等。并可以查看计算结果。



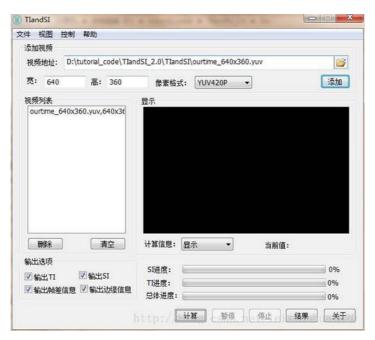
最简单的使用方法分成3步:

- 1.在"添加视频"栏(圈1)中设置输入视频的文件路径,宽,高,像素格式(支持YUV420P,YUV422P,YUV444P,Y)。设置完成后,单击"添加"。
- 2.单击"添加"之后,该视频会出现在"视频列表"中(圈2),作为一个待处理的任务。反复前2步可以将所有待计算的视频添加至"视频列表"中。

3.视频添加完毕后,单击"计算"即可等待结果了。



如图所示,单击添加之后,将一个分辨率为640x360,像素格式为YUV420P的YUV视频加入到了"视频列表"中。



如果感觉一个一个添加视频效率不高,还可以使用"批量添加视频"功能。该功能位于菜单栏的"文件"菜单中。单击"批量添加视频"之后弹出的对话框如下图所示。

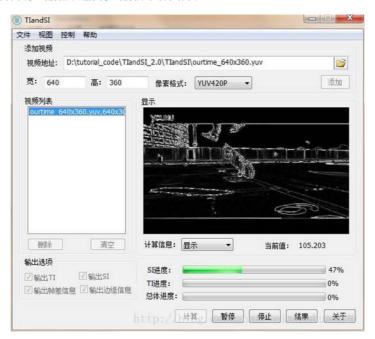


单击对话框中的"选择"按钮,弹出"打开文件"对话框,此时按住Shift键就可以选择多个视频了。选择完毕后,每个视频文件的地址会在下面的文本框中列出来。

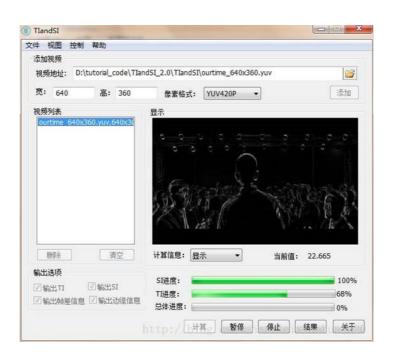
注:批量添加视频要求1批视频的宽,高,像素格式是一样的。



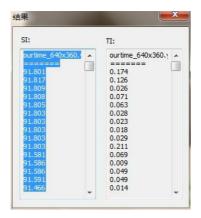
视频添加完成后,单击"计算"即可开始计算TI和SI。下图是计算过程中的截图。从下图中可以看出,正在计算SI。"显示"框中显示的是当前正在计算的视频帧的边缘信息。显示框的右下方"当前值"处输出了当前帧的计算结果。



下图是计算TI时候的截图。



计算过程中,可以单击"暂停"暂时停止计算过程,再次单击则可以继续计算过程。单击"停止"可以中止计算。单击"结果"可以查看计算的结果数值。 下图显示了计算结果对话框,左边显示每帧视频SI值,右边显示每帧视频的TI值。每一行代表一帧视频的SI或者TI。



部分实验数据举例

使用本软件测试了"Video Quality Experts Group (VQEG) HDTV video quality subjective test"中的实验视频,记录结果如下。

原视频可以从CDVL网站下载: http://www.cdvl.org

视频序列参数:

| 分辨率 | 1920x1080 |
|------|-----------|
| 像素格式 | YUV420P |
| 帧率 | 25 |
| 扫描方式 | 逐行 |
| 帧数 | 250 |

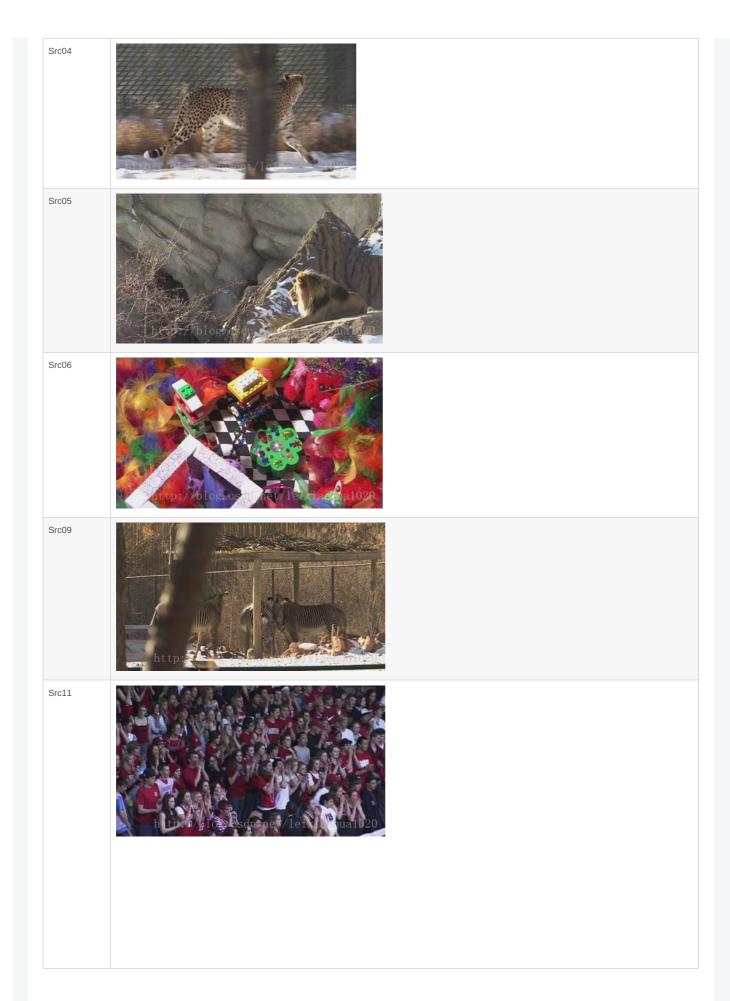
视频序列截图:

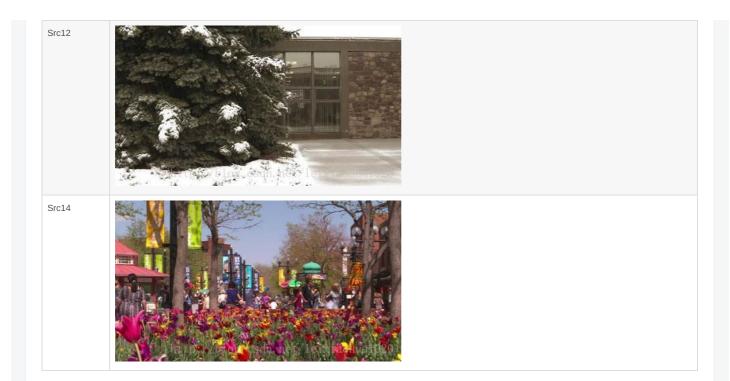




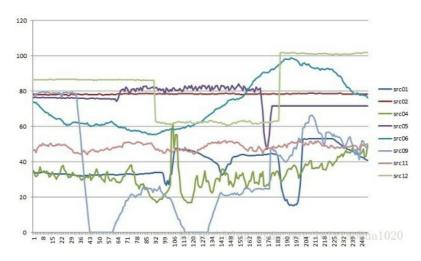
Src02



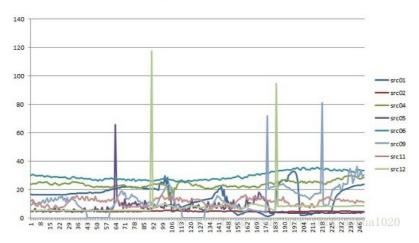




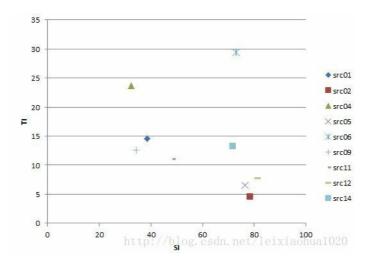
所有视频序列的SI结果图。横坐标为视频帧数(总共是250帧),纵坐标是SI值。



所有视频序列的TI结果图。横坐标为视频帧数(总共是250帧),纵坐标是TI值。注意TI值出现尖峰说明视频镜头出现了切换。



所有视频序列SI-TI均值散点图。这张图每个视频序列取了一个TI和SI的平均值,比前两张图更加简单明了。例如,从图中可以看出src06时间上和空间上都很复杂。src04则是时间上复杂空间上简单。src05则是时间上简单空间上复杂。src09在时间上和空间上都比较简单。



上图数据如下表所示:

| | src01 | src02 | src04 | src05 | src06 |
|----|----------|----------|----------|----------|----------|
| SI | 38.5505 | 78.40265 | 32.44776 | 76.53766 | 72.87351 |
| TI | 14.53949 | 4.552836 | 23.68147 | 6.58204 | 29.40821 |

| | src08 | src09 | src11 | src12 | src13 | src14 |
|----|----------|----------|----------|----------|----------|----------|
| SI | 42.63796 | 34.39115 | 48.50946 | 81.30184 | 63.59276 | 71.72707 |
| TI | 8.927161 | 12.61171 | 11.03867 | 7.705533 | 24.86191 | 13.18756 |

附上述前5个视频序列的实验数据(每1行代表1帧,每个视频序列都是250帧):

SI

| src01 | src02 | src04 | src05 | src06 |
|----------|----------|----------|----------|----------|
| 34.11227 | 78.40614 | 35.14113 | 76.43104 | 73.94827 |
| 33.92994 | 78.23272 | 32.46861 | 76.57767 | 73.33723 |
| 33.65194 | 78.1629 | 31.50552 | 76.52155 | 73.62707 |
| 33.61915 | 78.17674 | 32.27533 | 76.29674 | 72.40288 |
| 33.7622 | 78.10899 | 34.74414 | 76.41402 | 72.02622 |
| 33.83794 | 77.99973 | 37.05953 | 76.38589 | 71.05307 |
| 34.04739 | 77.9866 | 34.35284 | 76.34818 | 70.26144 |
| 34.19211 | 77.99291 | 34.11067 | 76.47707 | 69.5202 |
| 34.13154 | 78.06079 | 34.88097 | 76.29524 | 68.83315 |
| 33.98185 | 78.01164 | 33.67022 | 76.28047 | 67.90329 |
| 33.78486 | 77.90832 | 34.74694 | 76.2787 | 68.02058 |
| 33.54384 | 77.8715 | 32.77511 | 76.17498 | 67.7333 |
| 33.29879 | 77.91121 | 31.21906 | 76.28723 | 66.32894 |
| 33.22881 | 78.06065 | 32.34597 | 76.35584 | 66.39851 |
| 33.17196 | 78.05287 | 34.38228 | 76.24612 | 65.67879 |
| 33.07335 | 78.03114 | 33.05749 | 76.35513 | 65.27417 |
| 33.19284 | 77.91381 | 31.6397 | 76.27476 | 64.60571 |
| 33.20013 | 77.95229 | 30.31739 | 76.34165 | 64.21643 |

| 33.21595 | 78.28729 | 31.50584 | 75.89256 | 64.32289 |
|----------|----------|----------|----------|----------|
| 33.10554 | 78.23237 | 32.44746 | 76.30622 | 64.54266 |
| 33.01283 | 78.18332 | 33.5611 | 76.37514 | 64.41164 |
| 33.00296 | 78.18473 | 37.2462 | 76.14949 | 63.42708 |
| 33.02386 | 78.14613 | 38.03481 | 76.26094 | 62.64613 |
| 33.07961 | 78.1703 | 35.76167 | 76.12755 | 61.62434 |
| 33.05342 | 78.1022 | 34.60998 | 76.12599 | 61.46109 |
| 32.95795 | 77.91192 | 33.38902 | 76.20417 | 60.72308 |
| 32.81222 | 77.4261 | 31.19013 | 76.17433 | 61.07809 |
| 32.68448 | 77.75583 | 31.54333 | 75.90363 | 61.0433 |
| 32.52863 | 78.22574 | 31.4918 | 76.18575 | 61.50458 |
| 32.45192 | 78.19935 | 33.96083 | 76.16817 | 62.1318 |
| 32.36937 | 78.12192 | 33.2425 | 76.06998 | 62.397 |
| 32.36734 | 78.06795 | 32.22656 | 76.21124 | 62.38018 |
| 32.28437 | 78.27023 | 32.07715 | 76.04834 | 62.27901 |
| 32.26981 | 78.19225 | 31.61969 | 76.00959 | 62.18383 |
| 32.24176 | 78.199 | 32.12807 | 75.97332 | 62.16835 |
| 32.11469 | 78.15431 | 30.08725 | 75.8787 | 61.79934 |
| 31.94285 | 77.99904 | 29.68721 | 76.02964 | 61.8797 |
| 31.95817 | 78.10272 | 30.37195 | 75.95126 | 61.66226 |
| 32.10475 | 78.26478 | 29.99764 | 75.95086 | 61.49309 |
| 32.1763 | 78.36211 | 31.69354 | 75.77911 | 61.52024 |
| 32.24437 | 78.20442 | 31.32526 | 75.83146 | 62.17604 |
| 32.27145 | 78.0071 | 30.95941 | 75.82568 | 61.03366 |
| 32.35041 | 78.10513 | 33.38965 | 75.89172 | 60.73991 |
| 32.42971 | 78.07468 | 29.72827 | 75.98071 | 60.11805 |
| 32.52966 | 78.14928 | 31.1931 | 75.88583 | 60.35702 |
| 32.59615 | 77.97361 | 31.83573 | 75.9152 | 60.47296 |
| 32.54194 | 78.00555 | 33.69223 | 75.80357 | 61.31147 |
| 32.55136 | 77.93044 | 36.09147 | 75.92856 | 61.42054 |
| 32.48684 | 78.1556 | 34.36769 | 75.8979 | 60.8736 |
| 32.49245 | 78.49485 | 31.76907 | 75.66569 | 60.83758 |
| 32.52282 | 78.26384 | 31.88348 | 75.85355 | 60.66355 |
| 32.59743 | 78.05058 | 30.583 | 75.68778 | 61.13639 |
| 32.7053 | 77.89243 | 29.49337 | 75.64758 | 60.92598 |
| 32.83405 | 78.11219 | 28.58027 | 75.59411 | 61.26123 |
| 32.90588 | 78.11082 | 32.67408 | 75.78262 | 62.00879 |
| 32.93491 | 77.92604 | 34.45097 | 75.73622 | 61.69653 |
| 32.93086 | 78.03259 | 31.00666 | 75.74019 | 62.01629 |
| 32.81053 | 78.07468 | 29.41033 | 75.66123 | 62.4899 |
| 32.8042 | 78.19719 | 29.29216 | 75.54085 | 63.06491 |
| 32.73641 | 78.1983 | 30.5694 | 75.64723 | 62.34156 |
| | | | | |

| 32.7306 | 78.15722 | 30.72007 | 75.47392 | 61.37846 |
|----------|----------|----------|----------|----------|
| 32.64169 | 78.11609 | 30.15533 | 75.74056 | 61.35453 |
| 32.63112 | 78.2881 | 28.56019 | 74.33997 | 60.6754 |
| 32.57962 | 78.53934 | 28.74569 | 75.57714 | 59.77678 |
| 32.6863 | 78.46059 | 28.13907 | 77.63741 | 59.39601 |
| 32.80583 | 78.38833 | 28.51431 | 80.28611 | 59.45458 |
| 32.90373 | 78.40146 | 30.13823 | 81.07578 | 59.3615 |
| 32.9067 | 78.53365 | 31.52189 | 81.32465 | 59.21203 |
| 32.95157 | 78.61869 | 32.06326 | 80.15913 | 59.41122 |
| 33.05206 | 78.65588 | 33.7668 | 82.40826 | 58.77387 |
| 33.1577 | 78.55126 | 35.52477 | 81.45638 | 58.00494 |
| 33.0792 | 78.41479 | 36.18539 | 79.10319 | 58.33875 |
| 33.0628 | 78.49392 | 37.84253 | 79.01991 | 57.66805 |
| 33.05136 | 78.61106 | 38.24368 | 80.98164 | 57.34889 |
| 32.93827 | 78.58891 | 34.63765 | 81.27795 | 57.58857 |
| 32.84147 | 78.44535 | 34.25184 | 81.35755 | 57.86286 |
| 32.71353 | 78.32726 | 28.17646 | 79.88528 | 57.69532 |
| 32.76181 | 78.38892 | 27.01596 | 81.53223 | 57.40554 |
| 32.92054 | 78.51122 | 26.57733 | 81.54864 | 57.732 |
| 33.09937 | 78.69056 | 24.76824 | 80.53263 | 57.41301 |
| 33.13493 | 78.59286 | 27.4111 | 82.14195 | 57.0246 |
| 33.16457 | 78.53188 | 27.13922 | 80.27877 | 56.67243 |
| 33.21978 | 78.59166 | 27.54736 | 82.59267 | 56.59151 |
| 33.23723 | 78.73644 | 25.67457 | 82.7149 | 56.75134 |
| 33.28236 | 78.76659 | 24.79162 | 82.99586 | 56.15351 |
| 33.27354 | 78.64391 | 24.05126 | 81.46777 | 56.07602 |
| 33.32042 | 78.50205 | 22.4447 | 81.46771 | 55.55466 |
| 33.45312 | 78.52764 | 20.73955 | 81.64381 | 55.95591 |
| 33.60679 | 78.66727 | 19.79536 | 82.12398 | 55.33223 |
| 33.79289 | 78.64294 | 18.95607 | 82.5174 | 55.30575 |
| 33.83416 | 78.56324 | 18.69041 | 81.31218 | 55.83503 |
| 33.87961 | 78.43662 | 18.06603 | 82.13482 | 55.3565 |
| 33.87981 | 78.42304 | 16.95048 | 82.07009 | 55.73983 |
| 33.9248 | 78.58395 | 17.6092 | 80.57227 | 55.92213 |
| 33.97646 | 78.52959 | 18.85584 | 81.40002 | 56.27867 |
| 33.97837 | 78.53481 | 18.76593 | 80.76492 | 56.68041 |
| 34.09871 | 78.46863 | 18.99985 | 80.98699 | 57.51941 |
| 33.19675 | 78.54839 | 20.93484 | 81.28819 | 57.22927 |
| 28.02882 | 78.69891 | 21.7012 | 78.45576 | 57.84494 |
| 26.71881 | 78.64477 | 22.43796 | 81.86501 | 58.03946 |
| 29.27887 | 78.49986 | 23.30252 | 81.26701 | 57.93372 |
| 27.36868 | 78.38228 | 24.55473 | 79.91592 | 58.11812 |
| | | | | |

| 12-07551 76-0659 26-0655 0.07668 56.1576 37-0607 75-0608 57-2608 58.0774 58.0774 47-0608 77-2608 51.1012 51.71261 50.1761 48-10098 78-4007 77-6765 51.0250 58.2500 47-70086 78-2607 77-6765 51.0250 58.2500 47-70086 78-2607 78-2607 88-4704 88-4704 88-4703 47-54448 78-41211 55-4740 88-4707 88-4704 88-4704 47-44269 78-6703 37-73694 60-4563 59.7332 47-744269 78-6703 31.11104 41-40774 58-4868 47-72697 78-72602 31.11104 41-40774 58-4868 47-72697 78-72602 22-36222 60-79547 58-8745 47-11169 78-68252 22-36222 60-79547 58-8745 47-11169 78-68252 22-36222 60-79547 58-8745 47-11169 78-68252 22-36222 60-79547 58-8745 47-11169 78-68252 22-36222 60-79547 58-8745 47-11169 78-68252 22-36222 60-79547 58-8745 47-11169 78-68252 22-36222 60-79547 58-8745 47-11169 78-68252 22-36222 60-79547 58-8745 47-11169 78-68252 22-36222 60-79547 58-8745 48-58253 78-68253 11-97744 61-0965 59-0725 48-5833 78-58253 16-974 61-3625 60-4667 48-5833 78-58253 16-974 61-3625 60-4667 48-5837 78-58458 16-9678 61-5625 60-4667 48-5837 78-58458 16-9678 61-5625 60-5625 48-5837 78-58458 16-9678 61-5625 60-5625 48-52454 78-58454 10-7579 62-56857 61-5855 48-52454 78-58454 30-13777 62-56857 61-5855 48-52454 78-58474 30-13777 62-56857 61-5855 48-52454 78-58474 30-13777 62-56857 61-5855 48-52454 78-4677 28-51579 62-7939 63-1466 48-52454 78-4677 28-51579 62-7939 63-1466 48-52454 78-4677 28-51579 62-7939 63-1466 48-52454 78-4677 28-51579 62-7939 63-1466 48-52454 78-4677 28-51579 62-7939 63-1466 48-52454 78-4677 28-51579 62-7939 63-1466 48-52454 78-4677 28-51579 62-7939 63-1466 48-52454 78-4677 28-51674 81-10209 88-51478 48-52576 | | | | | |
|--|----------|----------|----------|----------|----------|
| 40 02761 | 32.97354 | 78.40859 | 26.9625 | 81.07868 | 58.61546 |
| 47.10000 70.41947 47.6245 01.9299 50.23209 47.70065 72.30283 55.80075 80.47041 55.41763 47.50460 72.48101 55.47000 00.70767 56.00052 47.744900 70.67000 37.70094 00.65630 56.73192 47.44900 70.67000 37.70094 00.65630 56.73192 47.24972 70.72882 21.81014 01.48274 56.44801 47.21979 70.68322 22.80832 00.70547 59.8745 47.11894 77.85764 70.72898 79.68849 59.24658 47.11894 78.5456 10.80248 01.089 59.4725 46.68243 70.54256 10.80248 01.089 59.4725 46.6869 70.63222 17.61778 01.67019 50.68192 46.6869 70.63223 17.41778 01.67019 50.68192 46.68233 70.58252 17.41778 01.67019 50.68192 46.52337 70.58252 17.41778 01.67019 60.68192 46.52331 70.56322 17.41778 01.67019 60.68192 46.52331 70.56322 17.41778 01.67019 60.5819 46.52331 70.56322 17.41778 01.67019 60.5819 46.52331 70.56323 16.824 01.0907 60.68192 46.52331 70.56323 17.41778 01.67019 60.5819 46.52331 70.58495 10.59578 01.6923 00.00019 46.52331 70.58495 10.59578 01.69233 00.00019 46.52331 70.61495 20.00005 00.50021 00.69044 46.10175 70.61495 20.00005 00.50021 00.69044 46.52379 72.52891 02.52005 00.50021 00.69044 46.52379 72.52891 02.52005 00.50021 00.69044 46.52379 72.52891 02.70000 02.2004 46.52490 72.52891 02.70000 02.2004 46.54400 72.52741 02.10269 02.5005 46.57407 70.48722 25.51579 02.70000 02.35566 46.59932 70.68952 77.08956 02.2007 02.5000 46.59932 70.47772 25.51579 02.70000 02.35566 46.59932 70.47772 25.51579 02.70000 02.35566 47.5707 70.48722 25.51579 02.70000 02.35566 47.5707 70.48722 25.51579 02.70000 02.35566 47.5707 70.48722 25.51579 02.70000 02.35566 47.57070 70.48722 25.51579 02.70000 02.35566 47.57070 70.48722 25.51579 02.70000 02.35566 47.57070 70.48722 25.51579 02.70000 02.35566 47.57070 70.48722 25.51579 02.70000 02.35566 47.57070 70.48722 25.51579 02.70000 02.35566 47.57070 70.48727 25.61544 01.00007 02.70000 02.35566 47.57070 70.48727 25.61544 01.00007 02.70000 02.35566 47.57070 70.48727 25.61544 01.00007 02.70000 02.35566 47.57070 70.48727 25.61544 01.00007 02.70000 02.35566 47.57070 70.48727 26.70564 01.00007 02.70000 02.35566 47.57070 70.48727 25.61544 01 | 32.8697 | 78.56362 | 57.24598 | 80.06958 | 58.4774 |
| 47.70666 78.9263 95.50875 80.47041 58.41763 47.50446 78.46161 55.47406 80.70767 58.60052 47.4099 76.67009 37.70044 80.46680 58.73192 47.20972 78.73872 31.10104 81.40774 58.46883 47.71169 78.68052 20.86873 80.70474 58.47345 47.71169 78.68052 20.86873 80.70474 58.47345 47.71169 78.68052 20.86873 80.70474 58.47345 47.71169 78.58752 20.27688 80.70474 58.47345 47.71169 78.58752 20.27688 79.80890 59.4725 48.4735 48.68052 78.58052 78.58052 80.70474 58.4735 48.68052 80.70474 58.4735 48.68052 80.70474 58.4735 48.68052 80.70474 58.4735 48.68052 80.70474 58.4735 48.68052 80.70475 80. | 40.02761 | 78.46208 | 61.10412 | 81.71261 | 58.1761 |
| 47.55446 7.8-40161 55.47466 80.7077 55.00822 17.44399 7.8-57509 37.79094 80.48538 55.73192 17.44399 7.8-57509 37.79094 80.48538 55.73192 17.44399 7.8-57509 37.79094 80.48538 55.73192 17.44399 7.8-58522 22.58523 80.708677 58.87345 17.11164 78.52524 00.72580 79.469849 50.2405 17.45084 17.11164 78.52524 10.752500 79.469849 50.2405 17.45084 18.82240 81.089 59.4725 17.45264 18.82240 81.089 59.4725 17.45264 18.82240 81.089 59.4725 17.45270 18.82233 17.451378 81.87318 59.66192 18.62279 78.55500 18.6221 81.6957 81.82233 78.55500 18.6221 81.69570 81.82233 50.68741 18.65517 78.56459 18.69570 81.82233 50.68741 18.65517 78.56459 18.69570 81.82233 50.68741 18.65517 78.56459 18.69570 81.82233 50.68741 18.65517 78.56459 18.69570 81.82233 50.68741 18.65517 78.56459 18.69570 81.82233 50.68741 18.65517 78.56459 18.69570 81.82233 50.68741 18.65517 78.56459 18.69570 81.82233 50.68741 18.65517 78.56459 18.65517 78.56459 18.69570 81.82233 50.68741 18.65517 78.56459 18.65517 81.65507 81.65517 81.65507 81.65517 81.65507 81.65517 81.65507 81.65517 81.65507 81.65507 81.65507 | 45.10398 | 78.41947 | 47.6245 | 81.9259 | 58.23209 |
| 47.47390 75.67809 37.70044 80.45638 85.73192 47.25072 75.73652 31.5104 81.40274 58.67843 47.12169 76.62152 22.95223 80.79647 58.67845 47.12169 76.62152 22.95223 80.79647 58.67345 47.12169 76.62152 22.95223 80.79647 58.67345 47.12169 77.52524 20.72586 75.69849 59.24055 47.12164 77.52524 20.72586 75.69849 59.24055 47.12164 77.52524 20.72586 16.069 59.4725 46.96869 77.68113 13.87704 83.0685 59.2262 46.60869 78.63833 17.743276 81.67818 59.66139 46.60869 78.63833 17.743276 81.57818 59.66139 46.62270 78.59559 16.624 81.34055 60.44642 46.62270 78.59569 16.9621 83.06819 60.51831 46.59333 76.59503 16.624 81.35702 60.24642 46.62370 77.59438 16.09678 81.52233 59.89743 46.42369 78.6064 16.7539 83.55002 60.29244 46.421389 78.6064 16.7539 83.55002 60.29244 46.10175 78.61465 20.86205 80.30621 60.99243 45.10175 78.61465 20.86205 80.30621 60.99243 45.10175 78.6465 22.44019 81.6074 61.19256 45.72641 78.25241 30.17377 82.66617 61.65633 45.20005 78.26351 32.24668 80.26473 61.69474 44.9046 78.8716 27.2203 81.5715 82.03837 44.57407 78.46722 25.51579 82.70388 62.50889 44.57407 78.46722 25.51579 82.70388 62.50889 44.2046 78.47772 25.61644 83.10572 63.60811 43.06601 78.44047 34.6228 83.10525 64.62511 43.06602 78.2656 78.46767 29.77228 81.2669 65.31539 42.2071 78.32662 27.02566 83.22677 63.33224 43.26716 78.32643 31.06224 83.10525 64.62511 43.06601 78.44047 34.6228 83.10525 64.62511 43.06601 78.44047 34.6228 83.10525 64.62511 43.06601 78.44047 34.6228 83.10525 64.62511 43.06601 78.44047 34.6228 83.10525 64.62511 43.06601 78.44047 34.6228 83.10685 66.33394 43.10601 78.44047 34.6228 83.10695 66.31399 43.2701 78.3256 22.24715 82.77230 66.74689 43.10765 78.66677 78.46961 27.64054 81.27075 66.91389 39.8963 78.45961 27.64054 81.67075 66.91389 39.8963 78.45961 27.64054 81.67075 66.91389 39.8963 78.45961 27.64054 81.67075 66.91389 39.8963 78.45961 27.64054 81.67075 66.91389 39.8963 78.45961 27.64054 81.67075 66.91389 39.8963 78.45961 30.06437 83.106022 70.959079 39.89647 78.45967 34.67078 83.91092 77.52565 77.52618 | 47.70966 | 78.39263 | 55.50975 | 80.47041 | 58.41763 |
| 47.125972 78.73662 31.16104 81.49274 58.64393 47.12169 78.64252 22.85823 80.70547 58.67345 47.11864 78.82524 20.72588 79.8843 58.24035 48.95243 78.84256 18.82249 81.089 59.4725 46.78839 78.68133 18.37704 83.0485 59.2892 46.6889 78.68323 37.61378 81.67818 56.66192 46.6889 78.68323 37.61378 81.67818 56.66192 46.6889 78.65503 16.624 81.34055 00.44662 46.68239 78.55508 16.624 81.34055 00.64462 46.62379 78.55508 16.624 81.34055 00.64462 46.62379 78.55508 16.624 81.34055 00.64462 46.62379 78.55508 16.624 81.34055 00.64462 46.62379 78.55508 16.624 81.34055 00.64462 46.62379 78.55508 16.624 81.34055 00.64462 46.62379 78.55508 16.624 81.3253 59.09743 46.53817 78.56488 16.09578 81.5253 59.09743 46.53817 78.56488 16.09578 81.5253 90.50521 90.09243 46.10175 78.61405 20.58205 80.50521 90.09243 46.10175 78.61405 20.58205 80.50521 90.09243 46.537801 78.25241 30.13777 82.69837 91.19564 45.37801 78.25241 30.13777 82.69837 91.19563 44.52605 78.26551 32.24688 80.26473 61.9474 44.5946 78.59716 27.22003 91.51715 62.03537 44.57407 78.48722 25.51579 82.79308 62.35966 44.20646 78.47772 25.61844 81.29697 62.49006 43.69832 78.36662 27.82566 83.23267 82.33324 43.36716 78.4347 34.8238 83.10272 82.69831 43.2671 78.4347 34.8238 83.10272 82.69831 43.2671 78.4347 34.8238 83.10272 82.69831 43.2671 78.4347 34.8238 83.10272 82.69831 43.2671 78.4347 34.8238 83.10272 82.69831 43.26961 78.4347 34.8238 83.10272 82.69831 43.26961 78.2456 22.24715 82.79216 65.74686 43.29701 78.43467 34.8238 83.10272 66.51338 65.74686 43.29701 78.43467 34.82561 30.08437 82.79216 65.74696 43.29701 78.43467 34.82561 30.08437 82.79216 65.74696 43.29701 78.4346 32.29622 77.09574 83.10692 66.51358 43.29701 78.4346 32.29622 77.09574 83.10692 66.51358 43.29701 78.24561 30.08437 82.79216 65.74696 43.10601 78.43467 34.80561 30.08437 82.79216 66.8435 37.10642 43.29701 78.45661 30.08437 82.79216 66.8435 37.10642 43.29701 78.46977 34.97078 83.31223 71.06442 43.29667 78.46977 34.97078 83.31223 71.06442 43.296671 78.6977 34.97078 83.31223 71.06442 | 47.58446 | 78.46161 | 55.47406 | 80.70767 | 58.60352 |
| 47.12169 78.68252 22.9823 80.79547 85.86734 47.11684 78.54254 20.72568 78.6849 59.24015 46.65243 78.54256 18.92349 81.699 59.4725 46.65243 78.54256 18.92349 81.699 59.4725 46.66243 78.54256 18.92349 81.699 59.4725 46.6624 18.34055 52.2862 46.6699 78.68233 17.61378 81.87218 59.60192 46.66333 78.55503 18.624 81.34055 60.44662 46.62379 78.5648 15.99578 81.82253 58.89743 46.53817 78.5648 15.99578 81.82253 58.89743 46.10175 78.6446 20.8205 80.55621 60.99574 46.10175 78.61466 20.8205 80.55621 60.99574 45.71343 78.62557 24.34619 81.6974 61.19256 45.71343 78.62557 24.34619 81.6974 61.19256 45.71343 78.62557 24.34619 81.6974 61.19256 45.71344 78.25241 30.17377 82.66837 61.6563 45.67648 78.27716 27.1903 81.51715 62.03637 44.4046 78.2716 27.1903 81.51715 62.03637 44.5407 78.46722 25.51579 82.79308 62.36686 44.2046 78.47772 25.6144 81.29607 62.49506 43.80932 78.36662 27.02566 83.32267 63.3324 43.67601 78.34266 29.38691 82.77293 65.74556 42.32701 78.34266 29.38691 82.77293 65.74556 42.32701 78.34266 29.38691 82.77293 65.74556 42.1026 78.26757 28.77628 81.2690 65.31538 44.11799 78.46503 22.34715 82.77293 65.74556 41.1779 78.46757 28.77628 81.2690 66.33594 41.11799 78.46503 22.34715 82.77020 68.03394 41.11799 78.46503 22.34715 82.77020 68.03394 41.11799 78.46501 29.38691 82.77293 65.74556 41.1026 78.32567 23.36097 80.03101 67.10435 41.11799 78.46503 22.34715 82.770216 67.59144 40.30009 78.52381 23.10409 81.02300 68.01438 40.30009 78.52381 23.10409 81.02300 68.01438 40.30009 78.52381 23.10409 81.02300 68.01438 40.30009 78.52381 23.10409 81.02609 70.59124 70.59144 40.30009 78.52381 23.10409 81.02609 70.59144 40.30009 78.52381 23.10409 81.02609 70.59144 40.30009 78.52381 23.10409 81.02609 70.59144 40.30009 78.52381 23.10409 81.02609 70.59144 40.30009 78.52381 23.10409 81.02609 70.59144 40.30009 78.52381 23.10409 81.02609 70.59144 40.30009 78.52381 23.10409 81.02609 70.59144 40.30009 78.52381 23.10409 81.02609 70.59144 40.30009 78.52381 23.10409 81.02609 70.5912 70.59144 40.30009 78.52381 23.10409 81.02609 70.5912 70.59144 40.300 | 47.44399 | 78.67809 | 37.79094 | 80.45638 | 58.73192 |
| 47.11864 | 47.25972 | 78.73662 | 31.16104 | 81.49274 | 58.64983 |
| A6 95243 78 54256 18 92349 81 089 59 4725 46 76859 78 68119 18 37704 83 0485 59 2882 46 6699 78 63823 17 61378 81 87618 59 66192 46 59333 78 55603 16 824 81 34065 60 44662 46 52379 72 50508 16 9821 83 06819 60 51851 46 52379 78 56456 16 9821 83 06819 60 51851 46 52379 78 56456 16 98276 81 8225 59 89743 46 42358 78 66664 16 7539 83 35202 60 22924 46 10175 78 61495 20 58205 80 50521 60 69243 45 71343 78 42557 24 34619 81 6974 61 19256 45 37861 78 25241 30 173777 82 66837 61 6683 45 20905 78 26351 32 24688 80 26473 61 89474 44 5546 78 39716 27 12903 81 51715 62 20537 44 57407 78 49722 25 51579 82 78306 62 35686 44 20646 78 47772 25 61844 81 29697 62 49506 43 89932 78 36662 27 02566 83 23207 63 33324 43 26716 78 34347 34 8328 83 10372 63 68831 43 26716 78 34266 29 36691 82 77293 65 74686 44 20246 78 47777 28 7678 81 2689 65 34586 44 20346 78 47777 28 7678 81 2689 65 34586 43 26715 78 36453 31 09224 83 10372 63 68831 43 26716 78 34266 29 36691 82 77293 65 74686 44 20346 78 45977 28 7678 81 2689 65 34586 44 20346 78 45977 28 7678 81 2689 65 34586 44 20346 78 45977 28 7678 81 2689 65 34586 44 20346 78 45977 28 7678 81 2689 65 34586 45 26545 78 40757 28 7678 81 2689 65 74686 47 20356 78 26822 27 90674 83 10895 65 34586 47 4056 78 32887 23 60007 80 03101 67 10436 41 11799 78 54501 27 6004 81 6775 68 81389 39 6803 78 45001 27 6004 81 6775 68 81389 39 6803 78 45001 27 6004 81 6775 68 81389 39 6803 78 45001 27 6004 81 6775 68 81389 39 6803 78 45001 20 76051 82 65020 69 8435 38 7028 78 60051 30 6877 34 57076 83 31233 71 66442 31 5507 78 6077 34 57076 83 31233 71 66442 31 5507 78 6077 34 57076 | 47.12169 | 78.68252 | 22.95823 | 80.79547 | 58.87345 |
| 46,78839 | 47.11864 | 78.52524 | 20.72598 | 79.69849 | 59.24035 |
| 46.6999 78.63823 17.61378 81.87818 50.66192 46.69933 78.55503 16.824 81.34055 60.44662 46.62379 78.56508 16.9621 83.0819 60.51381 46.62379 78.56508 16.9621 83.0819 60.51381 46.62379 78.56458 16.99578 81.82253 59.89743 46.623817 78.56458 16.99578 81.82253 59.89743 46.42358 78.69684 16.7539 83.35202 60.22924 46.10175 78.61495 20.58205 80.50521 60.09243 45.71343 78.42557 24.34619 81.6974 61.19256 45.71343 78.42557 24.34619 81.6974 61.19256 45.37861 78.25241 30.17377 82.66837 61.65853 45.20005 78.26351 32.24688 80.26473 61.00474 44.9646 78.39716 27.12003 81.51715 62.05377 44.57407 78.48722 25.51579 82.79308 62.35866 44.57407 78.48722 25.51579 82.79308 62.35866 43.469932 78.36662 27.02566 83.22267 63.33324 43.26718 78.3643 31.09224 83.10372 63.69831 43.05801 78.44347 34.83238 83.10535 64.62511 42.69545 78.40757 22.77628 81.2689 65.31538 42.26701 78.32357 23.69067 80.03101 67.10436 42.10726 78.32357 23.69067 80.03101 67.10436 41.11709 78.49503 22.34715 82.70216 67.59184 40.39909 78.52351 23.10409 81.0309 68.01438 39.8663 78.45691 27.64054 81.87075 68.91389 39.87895 78.36786 29.76631 82.99926 69.8435 38.87928 78.46061 30.68437 83.14527 69.87668 39.87928 78.6901 30.17853 81.0912 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5812 70.59979 39.49471 78.63075 38.9409 80.5822 71.9561 | 46.95243 | 78.54256 | 18.92349 | 81.089 | 59.4725 |
| 46.69333 78.55033 16.824 81.34055 60.44662 46.69379 78.50508 16.9621 83.08819 60.51831 46.53817 78.50458 16.9678 81.82253 59.89743 46.42358 78.69684 16.7539 83.38202 60.22924 46.10175 78.61495 20.58205 80.59521 60.06243 45.71343 78.42557 24.34619 81.6974 61.19256 45.37861 78.25241 30.17377 82.68837 61.65853 45.20605 78.26381 32.24688 80.26473 61.90474 44.57407 78.46722 25.51579 82.79308 62.35866 44.20646 78.47772 25.61844 81.29697 62.49506 43.26716 78.36662 27.02566 83.22267 63.33324 43.06932 78.36662 27.02566 83.22267 63.33324 42.0646 78.47772 25.61844 81.10372 63.69631 43.05601 78.43477 34.83238 83.10372 | 46.78839 | 78.68113 | 18.37704 | 83.0485 | 59.2882 |
| 46.62279 78.50508 16.9621 83.06819 60.51831 46.53817 78.56458 16.99578 81.82253 59.89743 46.42558 78.69684 16.7539 83.35202 60.22924 46.10175 78.61495 20.58205 80.50521 60.69243 45.73343 78.42557 24.34619 81.6974 61.19256 45.37861 78.25241 30.17377 82.66837 61.65853 45.20905 76.26351 32.24688 80.26473 61.90474 44.9646 78.39718 27.12903 81.51715 62.03537 44.20640 78.4772 25.51579 82.79308 62.35668 42.20740 78.48722 25.51579 82.79308 62.49506 43.26716 78.36662 27.02566 83.23267 63.33324 43.26716 78.36443 31.08224 83.10537 64.62511 42.80545 78.44377 24.83238 83.10535 64.62511 42.20210 78.2682 27.99674 83.16985 | 46.6989 | 78.63823 | 17.61378 | 81.87818 | 59.66192 |
| 16.53817 | 46.59333 | 78.55503 | 16.824 | 81.34055 | 60.44662 |
| 46.42358 78.69864 16.7539 83.35202 60.22924 46.10175 78.61495 20.58205 80.50521 60.69243 45.71343 78.42557 24.34619 81.6974 61.19256 45.37861 78.25241 30.17377 82.66837 61.65853 45.20905 78.26351 32.24688 80.26473 61.90474 44.9646 78.39716 27.12903 81.51715 62.03537 44.57407 78.48722 25.51579 82.78908 62.35686 44.20646 78.47772 25.61844 81.29697 62.48506 43.69932 78.36662 27.02566 83.23267 63.33324 43.22716 78.36443 31.08224 83.10372 63.68831 42.69545 78.4757 28.77628 81.2689 65.31538 42.2701 78.34206 29.38691 82.77293 65.74686 41.6261 78.32397 23.60907 80.03101 67.10436 41.6261 78.32397 23.60907 80.03101 | 46.62379 | 78.50508 | 16.9621 | 83.06819 | 60.51831 |
| 46.10175 78.61495 20.58205 80.50521 60.69243 45.71343 78.42557 24.34619 81.6974 61.19256 45.37661 78.25241 30.17377 82.66837 61.65853 45.20905 78.26351 32.24888 80.26473 61.90474 44.9646 78.39716 27.12903 81.51715 62.03537 44.57407 78.48722 25.51579 82.79308 62.35686 44.20646 78.47772 25.61844 81.29697 62.49506 43.89932 78.36662 27.02566 83.23267 63.33324 43.26716 78.36443 31.08224 83.109372 63.69831 42.26945 78.40757 28.77628 81.2689 65.31538 42.2701 78.34206 29.38691 82.77293 65.74686 42.10226 78.28522 27.99674 83.10985 66.33594 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 <td>46.53817</td> <td>78.56458</td> <td>16.99578</td> <td>81.82253</td> <td>59.89743</td> | 46.53817 | 78.56458 | 16.99578 | 81.82253 | 59.89743 |
| 45.71343 78.42557 24.34619 81.6974 61.19256 45.37861 78.25241 30.17377 82.66837 61.65853 45.20905 78.26351 32.24688 80.26473 61.90474 44.9646 78.39716 27.12903 81.51715 62.03537 44.57407 78.48722 25.51579 82.79308 62.36686 44.20646 78.47772 25.61844 81.29697 62.49506 43.69932 78.36662 27.02566 83.23267 63.33324 43.26716 78.36443 31.08224 83.10372 63.69831 43.05801 78.44347 34.83238 83.10535 64.62511 42.66545 78.40757 28.77628 81.2689 65.31538 42.32701 78.34206 29.38691 82.77293 65.74686 42.10226 78.28522 27.99674 83.16985 66.33594 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 68.01438 39.87935 78.4566 29.76631 8 | 46.42358 | 78.69684 | 16.7539 | 83.35202 | 60.22924 |
| 45.37861 78.25241 30.17377 82.66837 61.65853 45.20905 78.26351 32.24688 80.26473 61.90474 44.9646 78.39716 27.12903 81.51715 62.03537 44.57407 78.48722 25.51579 82.79308 62.35686 44.20648 78.4772 25.61844 81.29697 62.49506 43.69932 78.36662 27.02566 83.23267 63.33324 43.26716 78.36443 31.08224 83.10372 63.69831 43.05801 78.44347 34.83238 83.10535 64.62511 42.69545 78.40757 28.77628 81.2689 65.31538 42.32701 78.34206 29.38691 82.77293 65.74686 42.10226 78.28522 27.99674 83.16985 66.33594 41.1799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 66.01438 39.67895 78.36786 29.76631 82.99926 <td>46.10175</td> <td>78.61495</td> <td>20.58205</td> <td>80.50521</td> <td>60.69243</td> | 46.10175 | 78.61495 | 20.58205 | 80.50521 | 60.69243 |
| 45.20005 78.26351 32.24688 80.26473 61.90474 44.9646 78.39716 27.12903 81.51715 62.03537 44.57407 78.48722 25.51579 82.79308 62.35686 44.20646 78.47772 25.61844 81.29697 62.49506 43.69932 78.36662 27.02566 83.23267 63.33324 43.26716 78.36443 31.08224 83.10372 63.69831 43.05801 78.44347 34.83238 83.10555 64.62511 42.69545 78.40757 28.77628 81.2689 65.31538 42.32701 78.34206 29.38691 82.77293 65.74686 42.10226 78.29522 27.99674 83.16995 66.33594 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 68.01438 39.8863 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63091 30.17853 81.06912 70.59979 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 | 45.71343 | 78.42557 | 24.34619 | 81.6974 | 61.19256 |
| 44.9646 78.39716 27.12903 81.51715 62.03537 44.57407 78.48722 25.51579 82.79308 62.35686 44.20646 78.47772 25.61844 81.29697 62.49506 43.69932 78.36662 27.02566 83.23267 63.33324 43.05801 78.44347 34.83238 83.10372 63.69831 42.69545 78.40757 28.77628 81.2689 65.31538 42.32701 78.34206 29.38691 82.77293 65.74686 42.10226 78.28522 27.99674 83.16985 66.33594 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 68.01438 39.8863 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.69091 30.17853 81.06912 70.59979 34.99471 78.69077 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82 | 45.37861 | 78.25241 | 30.17377 | 82.66837 | 61.65853 |
| 44.57407 78.48722 25.51579 82.79308 62.35686 44.20646 78.47772 25.61844 81.29697 62.49506 43.69932 78.36662 27.02566 83.23267 63.33324 43.26716 78.36443 31.08224 83.10372 63.69831 43.05801 78.44347 34.83238 83.10535 64.62511 42.69545 78.40757 28.77628 81.2689 65.31538 42.32701 78.34206 29.38691 82.77293 65.74686 42.10226 78.26522 27.99674 83.16985 66.33594 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 68.01438 39.8633 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63091 30.17853 81.06912 70.59979 34.99471 78.63075 28.94609 | 45.20905 | 78.26351 | 32.24688 | 80.26473 | 61.90474 |
| 44.20646 78.47772 25.61844 81.29697 62.49506 43.69932 78.36662 27.02566 83.23267 63.33324 43.26716 78.36443 31.08224 83.10372 63.69831 43.05801 78.44347 34.83238 83.10535 64.62511 42.69545 78.40757 28.77628 81.2689 65.31538 42.32701 78.34206 29.38691 82.77293 65.74686 42.10226 78.28522 27.99674 83.16985 66.33594 41.6261 78.32387 23.60907 80.03101 67.10436 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 68.01438 39.8663 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 8 | 44.9646 | 78.39716 | 27.12903 | 81.51715 | 62.03537 |
| 43.69932 78.36662 27.02566 83.23267 63.33324 43.26716 78.36443 31.08224 83.10372 63.69831 43.05801 78.44347 34.83238 83.10535 64.62511 42.69545 78.40757 28.77628 81.2689 65.31538 42.32701 78.34206 29.38691 82.77293 65.74686 42.10226 78.28522 27.99674 83.16985 66.33594 41.6261 78.32387 23.60907 80.03101 67.10436 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 68.01438 39.8863 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63091 30.17853 81.06912 70.51947 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 8 | 44.57407 | 78.48722 | 25.51579 | 82.79308 | 62.35686 |
| 43.26716 78.36443 31.08224 83.10372 63.69831 43.05801 78.44347 34.83238 83.10535 64.62511 42.69545 78.40757 28.77628 81.2689 65.31538 42.32701 78.34206 29.38691 82.77293 65.74686 42.10226 78.28522 27.99674 83.16985 66.33594 41.6261 78.32387 23.60907 80.03101 67.10436 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 68.01438 39.8863 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82. | 44.20646 | 78.47772 | 25.61844 | 81.29697 | 62.49506 |
| 43.05801 78.44347 34.83238 83.10535 64.62511 42.69545 78.40757 28.77628 81.2689 65.31538 42.32701 78.34206 29.38691 82.77293 65.74686 42.10226 78.28522 27.99674 83.16985 66.33594 41.6261 78.32387 23.60907 80.03101 67.10436 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 68.01438 39.8863 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63091 30.17853 81.06912 70.59979 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82. | 43.69932 | 78.36662 | 27.02566 | 83.23267 | 63.33324 |
| 42.69545 78.40757 28.77628 81.2689 65.31538 42.32701 78.34206 29.38691 82.77293 65.74686 42.10226 78.28522 27.99674 83.16985 66.33594 41.6261 78.32387 23.60907 80.03101 67.10436 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 68.01438 39.8663 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63091 30.17853 81.06912 70.59979 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82.83882 71.95561 | 43.26716 | 78.36443 | 31.08224 | 83.10372 | 63.69831 |
| 42.32701 78.34206 29.38691 82.77293 65.74686 42.10226 78.28522 27.99674 83.16985 66.33594 41.6261 78.32387 23.60907 80.03101 67.10436 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 68.01438 39.8863 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63091 30.17853 81.06912 70.59979 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82.83882 71.95561 | 43.05801 | 78.44347 | 34.83238 | 83.10535 | 64.62511 |
| 42.10226 78.28522 27.99674 83.16985 66.33594 41.6261 78.32387 23.60907 80.03101 67.10436 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 68.01438 39.8863 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63091 30.17853 81.06912 70.59979 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82.83882 71.95561 | 42.69545 | 78.40757 | 28.77628 | 81.2689 | 65.31538 |
| 41.6261 78.32387 23.60907 80.03101 67.10436 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 68.01438 39.8863 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63091 30.17853 81.06912 70.59979 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82.83882 71.95561 | 42.32701 | 78.34206 | 29.38691 | 82.77293 | 65.74686 |
| 41.11799 78.49503 22.34715 82.70216 67.59184 40.39969 78.52351 23.19049 81.02309 68.01438 39.8863 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63091 30.17853 81.06912 70.59979 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82.83882 71.95561 | 42.10226 | 78.28522 | 27.99674 | 83.16985 | 66.33594 |
| 40.39969 78.52351 23.19049 81.02309 68.01438 39.8863 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63091 30.17853 81.06912 70.59979 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82.83882 71.95561 | 41.6261 | 78.32387 | 23.60907 | 80.03101 | 67.10436 |
| 39.8863 78.45691 27.64054 81.87075 68.91389 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63091 30.17853 81.06912 70.59979 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82.83882 71.95561 | 41.11799 | 78.49503 | 22.34715 | 82.70216 | 67.59184 |
| 39.57895 78.36786 29.76631 82.95926 69.8435 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63091 30.17853 81.06912 70.59979 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82.83882 71.95561 | 40.39969 | 78.52351 | 23.19049 | 81.02309 | 68.01438 |
| 38.87928 78.46051 30.68437 83.14527 69.87668 37.68755 78.63091 30.17853 81.06912 70.59979 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82.83882 71.95561 | 39.8863 | 78.45691 | 27.64054 | 81.87075 | 68.91389 |
| 37.68755 78.63091 30.17853 81.06912 70.59979 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82.83882 71.95561 | 39.57895 | 78.36786 | 29.76631 | 82.95926 | 69.8435 |
| 34.99471 78.63075 28.94609 80.58212 70.51547 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82.83882 71.95561 | 38.87928 | 78.46051 | 30.68437 | 83.14527 | 69.87668 |
| 33.15607 78.60877 34.97078 83.31233 71.06442 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82.83882 71.95561 | 37.68755 | 78.63091 | 30.17853 | 81.06912 | 70.59979 |
| 32.55887 78.4947 36.07235 82.96365 71.52818 33.65991 78.6245 35.73282 82.83882 71.95561 | 34.99471 | 78.63075 | 28.94609 | 80.58212 | 70.51547 |
| 33.65991 78.6245 35.73282 82.83882 71.95561 | 33.15607 | 78.60877 | 34.97078 | 83.31233 | 71.06442 |
| | 32.55887 | 78.4947 | 36.07235 | 82.96365 | 71.52818 |
| 35.0243 78.78889 32.50937 81.19566 72.44395 | 33.65991 | 78.6245 | 35.73282 | 82.83882 | 71.95561 |
| | 35.0243 | 78.78889 | 32.50937 | 81.19566 | 72.44395 |

| 36.83454 | 78.83679 | 33.52406 | 82.08138 | 73.06842 |
|----------|----------|----------|----------|----------|
| 38.54427 | 78.72632 | 32.84524 | 82.66727 | 74.63975 |
| 38.64687 | 78.58923 | 27.12408 | 80.6926 | 74.76155 |
| 38.93083 | 78.60718 | 29.06556 | 81.15141 | 75.11339 |
| 41.95027 | 78.73454 | 27.03685 | 83.3756 | 75.32791 |
| 42.51961 | 78.76911 | 25.89408 | 82.45209 | 75.61756 |
| 42.82058 | 78.50589 | 28.50118 | 81.01213 | 75.12265 |
| 42.98638 | 78.30922 | 34.01706 | 82.02821 | 75.43879 |
| 43.28146 | 78.31307 | 30.84781 | 82.64554 | 75.78056 |
| 43.6462 | 78.3804 | 30.35048 | 84.14512 | 75.4336 |
| 43.95722 | 78.3559 | 32.55693 | 82.87354 | 75.98047 |
| 44.10786 | 78.15913 | 32.11484 | 82.07567 | 76.41786 |
| 44.10365 | 78.08405 | 33.65102 | 80.24197 | 76.86536 |
| 44.09714 | 78.14391 | 31.03092 | 82.89051 | 77.55612 |
| 43.86998 | 78.31292 | 28.47085 | 81.87251 | 78.8047 |
| 43.70614 | 78.39563 | 25.05364 | 80.3652 | 79.60557 |
| 43.58878 | 78.2433 | 26.73274 | 81.4054 | 80.54318 |
| 43.4973 | 78.18334 | 29.36751 | 80.34871 | 82.09525 |
| 43.42374 | 78.22961 | 29.09837 | 80.6931 | 82.99397 |
| 43.56619 | 78.44045 | 33.12672 | 81.12276 | 83.83356 |
| 43.56398 | 78.42704 | 34.5912 | 81.24783 | 85.59553 |
| 43.61348 | 78.36924 | 27.82196 | 79.51898 | 86.23692 |
| 43.67233 | 78.38029 | 28.47833 | 82.45576 | 87.23966 |
| 43.75085 | 78.4716 | 28.11817 | 81.28442 | 87.56101 |
| 43.76688 | 78.54749 | 27.30945 | 80.94734 | 88.28336 |
| 43.792 | 78.4737 | 33.36139 | 81.7415 | 88.71535 |
| 43.81921 | 78.34133 | 31.63919 | 76.45563 | 89.75965 |
| 43.89098 | 78.23366 | 34.60786 | 68.15614 | 90.58617 |
| 43.98184 | 78.30178 | 26.39243 | 56.80912 | 90.72006 |
| 44.07505 | 78.48584 | 26.24051 | 50.54827 | 90.40402 |
| 44.23167 | 78.45241 | 26.92233 | 47.13988 | 90.57914 |
| 44.3838 | 78.30545 | 26.59362 | 49.62349 | 90.41423 |
| 44.5063 | 78.26623 | 28.55606 | 56.1092 | 91.14282 |
| 44.62618 | 78.39592 | 30.11525 | 65.24243 | 92.0814 |
| 44.60201 | 78.58225 | 33.6766 | 71.56178 | 92.56174 |
| 44.442 | 78.63898 | 33.98554 | 71.5537 | 92.27004 |
| 44.29607 | 78.49344 | 32.35635 | 71.56033 | 92.71992 |
| 44.21552 | 78.35735 | 34.518 | 71.56284 | 93.74671 |
| 43.91477 | 78.3586 | 34.86731 | 71.56157 | 94.27087 |
| 40.00321 | 78.46893 | 32.8512 | 71.4728 | 95.02236 |
| 31.81156 | 78.44199 | 30.02979 | 71.56988 | 95.25915 |
| 25.8732 | 78.35077 | 28.64832 | 71.55602 | 96.17671 |
| | | | | |

| 22.02207 | 78.35256 | 29.50496 | 71.57383 | 96.98534 |
|----------|----------|----------|----------|----------|
| 19.26056 | 78.40635 | 31.42942 | 71.53079 | 97.90682 |
| 18.02435 | 78.59234 | 32.35577 | 71.59667 | 98.42737 |
| 18.46469 | 78.60047 | 34.60179 | 71.59451 | 98.02219 |
| 16.43809 | 78.53535 | 35.70697 | 71.59808 | 97.98795 |
| | | | | |
| 15.28549 | 78.43672 | 36.15747 | 71.62669 | 98.10843 |
| 15.60751 | 78.45487 | 35.59147 | 71.63047 | 98.90553 |
| 15.48749 | 78.64029 | 36.73481 | 71.58865 | 98.5175 |
| 15.24298 | 78.67478 | 38.05702 | 71.54421 | 98.19717 |
| 15.54929 | 78.5703 | 38.01505 | 71.55292 | 97.94367 |
| 15.63556 | 78.51176 | 36.81028 | 71.61045 | 97.69254 |
| 16.93003 | 78.66428 | 33.95501 | 71.6135 | 97.14695 |
| 20.11533 | 78.79491 | 30.87034 | 71.53191 | 96.37047 |
| 27.38947 | 78.74038 | 33.30959 | 71.57177 | 94.9446 |
| 42.55399 | 78.72373 | 34.33661 | 71.61997 | 94.70754 |
| 52.93893 | 78.60116 | 35.5588 | 71.58454 | 95.58334 |
| 52.95299 | 78.57579 | 37.49406 | 71.63033 | 96.12968 |
| 52.93955 | 78.728 | 38.84643 | 71.59394 | 95.50817 |
| 52.94624 | 78.75779 | 38.08481 | 71.61703 | 94.87956 |
| 52.9558 | 78.81213 | 38.48192 | 71.62013 | 95.47892 |
| 52.96989 | 78.78933 | 40.38982 | 71.64245 | 94.62189 |
| 52.98266 | 78.83292 | 40.48685 | 71.64551 | 93.72396 |
| 52.98901 | 78.88919 | 36.23135 | 71.6491 | 93.35141 |
| 52.99904 | 78.83013 | 36.26705 | 71.64662 | 93.18731 |
| 53.00396 | 78.66462 | 36.27551 | 71.69841 | 92.79768 |
| 52.97312 | 78.49258 | 36.96511 | 71.6736 | 92.99712 |
| 53.00528 | 78.59309 | 36.70491 | 71.6742 | 93.09188 |
| 53.05299 | 78.76315 | 36.67922 | 71.62758 | 92.84032 |
| 53.08595 | 78.77218 | 37.91674 | 71.6553 | 91.99008 |
| 53.10569 | 78.63183 | 39.12885 | 71.60502 | 92.82492 |
| 53.11873 | 78.49545 | 35.83159 | 71.57069 | 92.66303 |
| 53.11622 | 78.51465 | 35.64143 | 71.63725 | 92.11729 |
| 53.11693 | 78.6426 | 35.43599 | 71.55219 | 92.48013 |
| 53.09266 | 78.68823 | 37.20842 | 71.56784 | 92.68993 |
| 53.09273 | 78.60648 | 39.707 | 71.52462 | 92.80566 |
| 53.11144 | 78.54989 | 40.36972 | 71.56809 | 92.25719 |
| 53.12492 | 78.60137 | 39.57468 | 71.59274 | 92.60694 |
| 53.14125 | 78.73244 | 37.65987 | 71.61644 | 92.15069 |
| 52.94426 | 78.70619 | 38.94581 | 71.56572 | 91.18188 |
| 52.26328 | 78.59056 | 40.06652 | 71.51733 | 90.90163 |
| | | | | |
| 51.52874 | 78.52846 | 40.30486 | 71.57539 | 90.25485 |

| 50.96685 | 78.59264 | 42.85994 | 71.55312 | 88.91937 |
|----------|----------|----------|----------|----------|
| 50.38583 | 78.7757 | 42.6783 | 71.55368 | 88.47917 |
| 49.85191 | 78.79872 | 43.51489 | 71.53254 | 88.51506 |
| 49.40686 | 78.54279 | 44.50343 | 71.5272 | 87.26296 |
| 48.97932 | 78.35553 | 42.80919 | 71.61302 | 85.685 |
| 48.45708 | 78.25446 | 44.96063 | 71.61152 | 84.36877 |
| 47.86446 | 78.36434 | 46.51823 | 71.63519 | 83.23194 |
| 47.43541 | 78.42562 | 45.35247 | 71.6418 | 82.21005 |
| 47.1065 | 78.31783 | 45.51167 | 71.64313 | 82.15845 |
| 46.83478 | 78.29112 | 44.89963 | 71.60667 | 81.1682 |
| 46.5132 | 78.2909 | 45.89646 | 71.6151 | 80.13172 |
| 46.03481 | 78.39895 | 48.25777 | 71.60671 | 79.53881 |
| 45.5615 | 78.49345 | 46.55856 | 71.6096 | 78.71452 |
| 45.1687 | 78.32108 | 46.66487 | 71.59156 | 78.20851 |
| 44.64364 | 78.18878 | 45.58506 | 71.55648 | 78.8624 |
| 44.12541 | 78.28613 | 44.84831 | 71.58369 | 78.87385 |
| 43.69613 | 78.34997 | 44.52232 | 71.59129 | 78.11804 |
| 43.03255 | 78.3243 | 44.29154 | 71.58604 | 77.68216 |
| 42.56189 | 78.26072 | 45.18401 | 71.57302 | 77.90449 |
| 42.27986 | 78.23785 | 47.30003 | 71.58276 | 77.86076 |
| 41.80077 | 78.2888 | 42.58584 | 71.60753 | 77.57997 |
| 41.23724 | 78.43852 | 43.20559 | 71.57053 | 77.76545 |
| 40.89035 | 78.46751 | 49.40918 | 71.58868 | 76.32693 |
| | | | | |

ΤI

| src01 | src02 | src04 | src05 | src06 |
|----------|----------|----------|----------|----------|
| 16.4346 | 4.854876 | 23.67565 | 4.853036 | 30.07895 |
| 16.336 | 4.852765 | 23.85904 | 4.184067 | 30.46464 |
| 16.2876 | 4.860908 | 23.94492 | 4.696161 | 30.42508 |
| 16.25301 | 4.952977 | 24.10775 | 6.410902 | 29.75141 |
| 16.25793 | 4.742767 | 24.11188 | 4.160068 | 29.71385 |
| 16.18544 | 4.821981 | 24.69387 | 4.721159 | 29.47401 |
| 16.16217 | 4.781013 | 25.18017 | 4.548656 | 29.93687 |
| 16.09365 | 4.813073 | 25.05393 | 5.139695 | 29.54725 |
| 16.02452 | 4.762067 | 24.89463 | 5.328558 | 30.08106 |
| 16.01555 | 4.83356 | 24.79251 | 4.072394 | 29.5964 |
| 16.02729 | 4.565938 | 25.04163 | 5.352254 | 28.70301 |
| 16.03693 | 4.840607 | 25.14869 | 4.413699 | 29.05461 |
| 16.01169 | 4.604475 | 25.01037 | 4.508003 | 29.38734 |
| 15.99107 | 4.605731 | 24.37147 | 5.615321 | 28.98725 |
| 16.03212 | 4.369024 | 23.50415 | 3.984185 | 29.09729 |

| 16.16231 4. | 4.681246 4.552174 | 23.40761 | 4.163081 | 28.5931 |
|-------------|----------------------|----------|----------|----------|
| | 1.552174 | | | |
| 16.14231 4. | | 23.05094 | 4.64704 | 28.73829 |
| | 1.608134 | 24.14053 | 5.293671 | 28.65966 |
| 16.07628 4. | 1.568195 | 24.53619 | 6.766617 | 28.6924 |
| 16.04752 4. | 1.287101 | 24.11617 | 4.479671 | 28.61699 |
| 16.05922 4 | 1.487365 | 23.76856 | 4.64454 | 28.78117 |
| 16.16985 4. | 1.254987 | 22.85081 | 6.352566 | 28.56161 |
| 16.18335 4 | 1.647492 | 23.3715 | 4.968929 | 28.46624 |
| 16.22783 4 | 1.841856 | 23.88872 | 4.648597 | 28.48849 |
| 16.24669 5. | 5.328704 | 23.78434 | 5.720457 | 28.27702 |
| 16.27143 5. | 5.300278 | 24.20948 | 4.637146 | 28.63454 |
| 16.3447 4 | 1.683675 | 24.46646 | 4.330137 | 28.36114 |
| 16.59715 5. | 5.573736 | 24.14022 | 4.849813 | 27.69356 |
| 16.66385 4. | 1.530762 | 23.97219 | 4.198858 | 27.63517 |
| 17.05659 4 | 1.57051 | 24.01006 | 4.944315 | 27.38733 |
| 16.98272 4. | 1.415952 | 24.64534 | 4.16673 | 27.86837 |
| 16.96191 4. | 1.835955 | 25.30059 | 3.969127 | 28.79441 |
| 16.87775 4. | 1.604583 | 24.92475 | 6.192251 | 28.85178 |
| 16.9628 4. | 1.152794 | 25.12265 | 5.368617 | 28.49077 |
| 17.30263 4. | 1.69043 | 25.18206 | 4.53744 | 27.81821 |
| 17.4104 4. | 1.369136 | 24.77978 | 4.816576 | 28.06695 |
| 17.35473 4. | 4.713391 | 24.79342 | 4.658045 | 27.58472 |
| 17.29545 4. | 1.938141 | 24.47029 | 4.372404 | 27.95026 |
| 17.19346 4. | 4.315003 | 24.39778 | 4.054456 | 28.12618 |
| 17.22895 4. | 1.81462 | 24.21569 | 5.383167 | 27.54554 |
| 17.36705 4. | 1.50232 | 23.20367 | 6.748743 | 27.45264 |
| 17.39905 4. | 1.918614 | 22.34826 | 4.662574 | 27.62023 |
| 17.4387 4. | 1.761128 | 22.75337 | 4.513362 | 27.39139 |
| 17.47882 4. | 1.676101 | 22.69776 | 5.176101 | 27.43809 |
| 17.93012 5. | 5.363595 | 22.60884 | 4.733319 | 27.63186 |
| 17.80018 4. | 1.52473 | 22.17103 | 4.747142 | 26.79935 |
| 17.44131 5. | 5.346806 | 21.66439 | 5.925611 | 26.42574 |
| 17.64656 4. | 1.485108 | 21.38372 | 4.345754 | 26.53981 |
| 17.72645 5. | 5.243551 | 21.61374 | 7.579416 | 26.9577 |
| 17.75785 4. | 1.800678 | 21.97741 | 4.340247 | 26.58522 |
| 17.53731 4. | 1.34403 | 21.7122 | 6.019715 | 25.98882 |
| 17.53977 4. | 1.260069 | 21.66178 | 4.342404 | 27.02807 |
| 17.71862 4. | 1.38455 | 21.65414 | 4.546299 | 26.65156 |
| 17.92692 4. | 1.845586 | 21.95718 | 7.288264 | 26.08857 |
| 18.20836 4. | 1.394526 | 21.30739 | 4.134035 | 26.6178 |
| 18.59367 4 | 1.4808 | 21.80687 | 4.971248 | 27.54239 |
| 19.10351 4. | 1.552731 | 21.77308 | 3.956753 | 27.43016 |

| 19.18906 | 4.369278 | 21.74755 | 7.503269 | 27.60597 |
|----------|----------|----------|----------|----------|
| 19.21486 | 4.263676 | 21.59694 | 5.485175 | 27.16126 |
| 20.01762 | 4.193155 | 21.49428 | 4.884045 | 27.58105 |
| 19.9575 | 4.224722 | 21.31632 | 5.80624 | 28.18 |
| 20.40553 | 4.323102 | 21.6404 | 6.702751 | 27.25401 |
| 20.43204 | 4.374086 | 22.09635 | 9.097949 | 27.49447 |
| 20.51125 | 4.415724 | 22.68922 | 65.4071 | 27.78208 |
| 20.75653 | 4.393436 | 22.93476 | 12.87009 | 27.62406 |
| 21.11625 | 4.431479 | 22.50741 | 12.42817 | 27.02062 |
| 21.09602 | 4.494583 | 22.5597 | 8.431763 | 27.37605 |
| 21.26156 | 4.268094 | 22.69144 | 9.088765 | 27.24031 |
| 21.6615 | 4.336943 | 22.79401 | 10.48747 | 26.80979 |
| 21.77773 | 4.428227 | 23.1973 | 6.674089 | 27.26531 |
| 21.80238 | 4.554108 | 22.96198 | 13.21527 | 26.77478 |
| 21.92452 | 4.649675 | 22.11164 | 7.075576 | 26.28783 |
| 21.66635 | 4.414924 | 21.61687 | 8.234591 | 26.79627 |
| 21.72047 | 4.399043 | 21.69443 | 10.17034 | 27.03463 |
| 21.70957 | 4.742225 | 21.99197 | 8.546275 | 26.51605 |
| 21.51864 | 4.503491 | 21.64782 | 9.851012 | 26.35011 |
| 21.32303 | 4.379184 | 21.62005 | 10.05544 | 27.38558 |
| 21.34691 | 4.352705 | 21.46112 | 9.987005 | 26.92548 |
| 21.3646 | 4.848015 | 21.64374 | 11.45271 | 25.72274 |
| 21.16789 | 4.476853 | 21.31479 | 8.397369 | 26.31074 |
| 21.30883 | 4.319756 | 20.85485 | 9.943368 | 26.71483 |
| 21.11623 | 4.723447 | 20.99575 | 9.331749 | 26.85497 |
| 20.8706 | 4.475708 | 20.88233 | 7.057144 | 26.3739 |
| 20.87045 | 4.493284 | 21.65783 | 6.991496 | 26.69188 |
| 20.66464 | 4.572901 | 21.73454 | 6.435292 | 26.48829 |
| 20.64722 | 4.565903 | 22.22885 | 12.03789 | 26.42303 |
| 20.71977 | 4.565456 | 21.78469 | 9.38295 | 26.44793 |
| 20.40559 | 4.61032 | 22.42151 | 6.690069 | 26.0533 |
| 20.2455 | 4.718253 | 23.01014 | 5.207335 | 26.26662 |
| 20.304 | 4.579127 | 22.97573 | 7.41721 | 25.91592 |
| 20.17954 | 4.576792 | 23.12314 | 6.125813 | 25.66662 |
| 20.28407 | 4.550788 | 23.75682 | 7.425339 | 25.9894 |
| 20.45156 | 4.667014 | 23.88992 | 9.449672 | 26.30839 |
| 20.21265 | 4.710568 | 23.52956 | 7.398733 | 26.30013 |
| 19.8446 | 4.982671 | 23.53707 | 7.531616 | 26.54513 |
| 19.66305 | 4.653668 | 24.08424 | 8.141555 | 26.50515 |
| 23.79792 | 4.741257 | 24.14851 | 8.909857 | 26.72431 |
| 25.13356 | 4.783992 | 23.48478 | 7.291225 | 27.303 |
| | | | | |

| 24.55328 | 4.856102 | 23.55417 | 7.644104 | 27.33959 |
|----------|----------|----------|----------|----------|
| 24.32558 | 4.991766 | 23.27944 | 6.644868 | 27.53164 |
| 29.58938 | 4.943444 | 22.82335 | 10.60907 | 27.55202 |
| 23.29125 | 5.287991 | 23.33833 | 7.829834 | 27.17455 |
| 28.32635 | 5.027031 | 21.00052 | 8.677301 | 26.45384 |
| 15.4549 | 5.242239 | 13.68637 | 8.742964 | 26.97066 |
| 17.65481 | 4.978864 | 13.78108 | 9.135463 | 26.90805 |
| 4.481323 | 5.039562 | 21.2938 | 9.219617 | 26.62468 |
| 4.118829 | 4.985883 | 14.85858 | 6.731551 | 26.57904 |
| 4.664699 | 4.863561 | 21.13627 | 10.82697 | 26.11707 |
| 5.20604 | 4.942122 | 20.38013 | 7.632466 | 25.49164 |
| 5.715464 | 5.061142 | 22.83661 | 9.104146 | 25.5908 |
| 6.228725 | 5.030741 | 24.83576 | 9.478375 | 25.8692 |
| 6.721927 | 4.74884 | 24.95931 | 8.340575 | 25.68054 |
| 7.187705 | 4.953345 | 25.64209 | 6.983927 | 26.40285 |
| 7.627119 | 4.768245 | 25.25382 | 5.77029 | 26.28196 |
| 8.072762 | 4.731955 | 25.69121 | 6.827226 | 25.41773 |
| 8.481621 | 4.650815 | 25.30639 | 6.07994 | 24.81029 |
| 8.886425 | 4.68601 | 25.04136 | 4.892207 | 25.82988 |
| 9.279737 | 4.464976 | 25.15118 | 6.606722 | 26.37222 |
| 9.575562 | 4.643841 | 24.59327 | 5.93134 | 26.04948 |
| 9.838899 | 4.566737 | 23.50798 | 10.42296 | 26.00454 |
| 10.15495 | 4.761097 | 22.91123 | 13.51242 | 25.65523 |
| 10.44121 | 4.485296 | 22.5457 | 6.927536 | 26.31289 |
| 10.81367 | 4.642929 | 23.04364 | 8.132379 | 26.40174 |
| 11.04895 | 4.496974 | 23.47012 | 6.822241 | 26.206 |
| 11.24889 | 4.442561 | 22.81573 | 7.899156 | 26.06462 |
| 11.477 | 4.361214 | 22.44118 | 9.072417 | 26.62971 |
| 11.89865 | 4.396119 | 22.67306 | 6.254782 | 26.93236 |
| 12.10128 | 4.46479 | 21.72146 | 6.183346 | 26.71716 |
| 12.36337 | 4.453112 | 21.81413 | 5.705389 | 26.67911 |
| 12.58741 | 4.457632 | 20.99464 | 4.639081 | 26.78752 |
| 12.7334 | 4.384196 | 20.53902 | 6.464703 | 27.06321 |
| 13.01276 | 4.364563 | 20.59979 | 6.914073 | 26.94174 |
| 13.17708 | 4.445801 | 20.92888 | 11.34452 | 26.24872 |
| 13.16756 | 4.618381 | 20.17147 | 8.242126 | 26.74778 |
| 13.67621 | 4.746426 | 20.6924 | 5.226142 | 27.11583 |
| 13.63114 | 4.683844 | 20.53772 | 6.281343 | 27.44383 |
| 15.40014 | 4.60167 | 21.14009 | 7.930066 | 27.24474 |
| 16.88077 | 4.544683 | 20.94184 | 11.23918 | 27.32852 |
| | | | | |

| 19.0469 4.6977 21.6969 7,000475 27.4169 | | | | | |
|--|----------|----------|----------|----------|----------|
| 20.76528 | 18.04453 | 4.64677 | 21.69623 | 7.009475 | 27.41963 |
| 21.77199 4.59640 22.4000 6.84207 27.42146 15.56722 4.43560 23.11797 8.32567 28.0096 15.86722 4.43560 23.11797 8.32567 28.0096 15.86436 4.37644 27.50444 6.700038 27.87788 8.752701 4.376635 22.73409 6.94664 27.47112 7.72892 4.468432 21.90144 11.27566 27.00103 6.448543 4.51017 22.30829 11.01205 27.81013 6.448543 4.5117 22.30829 11.01205 27.81013 6.488722 4.51175 22.0485 6.60449 22.1013 4.87704 4.51175 22.0485 6.60449 22.1013 4.170812 4.869085 22.22853 12.86515 28.32453 4.170812 4.971044 22.0865 0.540021 22.7026 1.760127 4.571144 21.04681 0.50042 20.38066 2.02775 4.479014 21.68635 6.78512 28.53884 <td>20.15</td> <td>4.687928</td> <td>22.38328</td> <td>10.70967</td> <td>26.84319</td> | 20.15 | 4.687928 | 22.38328 | 10.70967 | 26.84319 |
| 15.59722 | 20.78328 | 4.620436 | 22.44881 | 8.362748 | 26.49001 |
| 1084416 | 21.77159 | 4.539649 | 22.40009 | 6.642507 | 27.42146 |
| 8.782781 | 15.56722 | 4.443669 | 23.11797 | 8.32567 | 28.0096 |
| 15.04268 | 19.84616 | 4.370474 | 22.50944 | 5.700203 | 27.57788 |
| 7.72593 4.548433 21.60194 11.27596 27.60103 6.445945 4.5388 22.1122 6.148008 27.5156 5.371794 4.516177 22.16529 11.01205 27.81013 4.864762 4.51715 22.04495 6.490439 28.16133 4.170812 4.589955 22.2583 12.38515 28.2583 2.968564 4.71129 22.00605 8.542091 28.7026 2.9775 4.591843 21.52344 6.900482 29.38095 2.93775 4.78614 21.04661 9.839502 29.08042 2.316533 4.380044 21.68635 6.735212 28.55884 2.39776 4.476204 22.0399 6.042439 27.77088 2.962546 4.373038 22.32321 6.788994 28.5575 3.89257 4.373038 22.32321 6.788994 28.5575 3.8725158 4.334688 21.62483 14.78025 28.88003 4.57213 4.343588 21.62483 14.78025 2 | 8.752761 | 4.379535 | 22.73409 | 6.94594 | 27.47132 |
| 6.46845 4.5338 22.1122 6.18008 27.5156 5.371794 4.516177 22.10529 11.01205 27.31013 4.684762 4.51715 22.04495 6.400439 28.16133 4.70812 4.580955 22.2553 12.38515 28.32463 4.170812 4.580955 22.2553 12.38515 28.32463 4.707508 22.41919 6.506322 28.5313 2.968864 4.71129 22.09605 8.542001 28.7926 1.765127 4.591843 21.52344 6.5004802 23.80055 2.03775 4.478614 21.04661 9.330802 28.09402 2.316533 4.380564 21.08385 6.735512 28.53094 2.639746 4.457204 22.0369 6.042439 27.77068 2.962846 4.470849 22.39411 6.965409 27.52788 3.398257 4.373038 22.3221 6.79694 28.5575 3.826196 4.394488 21.83298 8.988322 28.71434 4.225157 4.343888 21.02483 14.72625 28.38003 4.779178 4.34618 21.6612 6.079881 20.47196 4.779178 4.365769 21.04423 10.50964 30.4321 4.826005 4.371399 21.58224 10.36194 28.75423 4.826005 4.371399 21.58224 10.36194 28.75423 4.881707 4.438997 22.07774 10.25522 30.05094 4.88346 4.42519 22.23887 15.35579 20.96246 4.180009 4.416617 21.55603 12.48051 30.59658 3.865416 4.3864 21.23381 13.88176 30.88007 3.865416 4.3864 21.23381 13.88176 30.88007 3.114223 4.276679 22.61502 18.58138 30.43007 3.114223 4.276679 22.61502 18.58138 30.43007 3.114223 4.276679 22.61502 18.58138 30.43007 3.114223 4.276679 22.61502 18.58138 30.43007 3.114223 4.276679 22.61502 18.58138 30.43007 3.114223 4.276679 22.61502 18.58138 30.43007 3.114223 4.276679 22.61502 18.58138 30.43007 3.114223 4.276679 22.61502 18.58138 30.43007 3.114223 4.276679 22.61502 18.58138 30.43007 3.11423 4.40688 23.36661 12.59034 31.12020 3.1150770 4.43689 23.36506 11.259034 31.12020 3.1150770 4.43689 23.36506 11.259034 31.13008 3.11423 4.276679 23.80003 31.18008 3.11423 4.276679 23.80003 31.18008 3.11423 4.276679 23.80003 31.18008 3.11423 4.276679 23.80003 31.18008 3.11423 4.276679 23.80003 31.18008 3.11423 4.276679 23.80003 31.18008 3.11423 4.276679 23.80003 31.18008 3.11423 4.276679 23.80003 31.18008 3.11423 4.276679 23.80003 31.18008 3.11420 31.18009 3.114445 31.14465 31.24507 80.046105 31.38008 | 15.04248 | 4.488087 | 21.87113 | 12.55607 | 27.71815 |
| 5.371794 4.510177 22.10529 11.01205 27.81013 4.664762 4.51715 22.04895 6.490439 28.1513 4.170612 4.569855 22.2553 12.38515 28.3453 3.682924 4.707500 22.41919 6.504932 28.5513 2.968564 4.71129 22.09005 8.542991 28.7926 1.765127 4.591843 21.52344 6.908482 29.38055 2.03775 4.479614 21.04661 9.530502 29.09402 2.316633 4.388054 21.66835 6.735512 28.53864 2.639746 4.467204 22.03699 6.042439 27.77068 2.982546 4.470640 22.38411 6.966409 27.52788 3.88257 4.373038 22.32221 6.79884 28.5575 3.872517 4.343568 21.92483 14.76625 28.38003 4.57123 4.24018 21.8612 8.029881 29.67196 4.797178 4.365769 21.04423 10.50954 | 7.72593 | 4.548433 | 21.90194 | 11.27596 | 27.80103 |
| 4.684762 | 6.445845 | 4.5338 | 22.1122 | 6.148008 | 27.5156 |
| 4.170812 4.589955 22.2553 12.38515 28.32453 3.682924 4.707508 22.41919 6.504932 28.5513 2.968564 4.71129 22.09605 8.542091 28.7926 1.765127 4.591843 21.52344 6.900482 29.38065 2.03775 4.478614 21.04661 9.530502 29.09402 2.316633 4.398054 21.68935 6.735512 28.58684 2.839746 4.457204 22.0369 6.042439 27.77068 2.982546 4.470849 22.39411 6.965409 27.52788 3.383657 4.373038 22.32321 6.798804 28.5575 3.826169 4.394488 21.83298 8.896322 22.71434 4.228157 4.34588 21.92483 14.72625 23.38603 4.571213 4.34018 21.8612 8.02881 29.67166 4.78717B 4.365769 21.04423 10.50864 29.7843 4.786107 4.436597 21.58224 10.36184 | 5.371794 | 4.516177 | 22.10529 | 11.01205 | 27.81013 |
| 36809924 4.707508 22.41919 6.504932 28.5513 2.968564 4.71129 22.09005 8.542091 28.7926 1.765127 4.591843 21.52344 6.900402 29.39065 2.03775 4.478614 21.04661 9.530502 29.09402 2.316533 4.399054 21.66835 6.735512 28.53684 2.639746 4.457204 22.0369 6.042439 27.77068 2.982546 4.470849 22.39411 6.968409 27.52788 3.38257 4.373038 22.32321 6.796604 28.5575 3.826166 4.394488 21.83288 8.965322 78.71434 4.228157 4.343588 21.92483 1.472625 23.3803 4.571213 4.34018 21.8612 8.028881 29.67196 4.797178 4.365769 21.04423 10.50064 30.4321 4.806055 4.371399 21.58224 10.36184 29.75423 4.681707 4.436597 22.07774 10.25522 | 4.684762 | 4.51715 | 22.04495 | 6.490439 | 28.16133 |
| 2.968564 4.71129 22.09605 8.542091 28.7926 1.765127 4.591643 21.52244 6.909402 29.89655 2.03775 4.476614 21.04661 9.530502 29.09402 2.316633 4.398054 21.68835 6.735512 28.53684 2.636746 4.457204 22.0389 6.042439 27.77068 2.982546 4.470849 22.39411 6.965409 27.52788 3.398257 4.373038 22.32321 6.796694 28.5575 3.826196 4.394488 21.83298 8.965322 28.71434 4.228157 4.343588 21.92483 1.4.72625 28.89603 4.571213 4.34018 21.8612 8.029881 29.67196 4.797178 4.365769 21.04423 10.50954 30.4321 4.826605 4.371399 21.58224 10.36184 29.75423 4.76444 4.343413 22.22483 9.866554 29.76173 4.88346 4.425158 22.2387 15.35579 | 4.170812 | 4.589955 | 22.2553 | 12.38515 | 28.32453 |
| 1765127 4.591843 21.52344 6.909482 29.38065 2.03775 4.478614 21.04661 9.530502 29.09402 2.316533 4.38094 21.66835 6.735512 28.53684 2.639746 4.457204 22.0369 6.042439 27.77068 2.992546 4.470849 22.39411 6.965409 27.52788 3.38257 4.373038 22.32221 6.798894 28.5575 3.826196 4.394468 21.83298 8.996322 28.71434 4.228157 4.343988 21.92463 1.472625 28.38603 4.571213 4.34018 21.8612 8.029881 29.67196 4.797178 4.365769 21.04423 10.50954 30.4321 4.826605 4.371399 21.58224 10.36184 29.75423 4.76484 4.343413 22.22483 9.866554 29.76173 4.881707 4.436597 22.07774 10.25522 30.05064 4.180009 4.416647 21.55593 12.48051 | 3.682924 | 4.707508 | 22.41919 | 6.504932 | 28.5513 |
| 2.03775 4.478614 21.04661 9.530502 29.09402 2.316633 4.389054 21.66835 6.735512 28.53684 2.639746 4.457204 22.0369 6.042439 27.77068 2.982546 4.470849 22.39411 6.965409 27.52788 3.38257 4.373038 22.32321 6.789694 28.5575 3.826196 4.394468 21.83298 8.980522 28.71434 4.228157 4.343588 21.92483 14.72625 28.38603 4.571213 4.34018 21.8612 8.029881 29.67196 4.797178 4.365769 21.04423 10.50954 30.4321 4.826055 4.371399 21.58224 10.36184 29.75423 4.76484 4.343413 22.22483 9.866554 29.76173 4.4861707 4.436597 22.07774 10.25522 30.05064 4.180099 4.16647 21.55593 12.48051 30.59658 3.19423 4.276679 22.61502 16.58138 | 2.968564 | 4.71129 | 22.09605 | 8.542091 | 28.7926 |
| 2.316633 | 1.765127 | 4.591843 | 21.52344 | 6.909482 | 29.38065 |
| 2.639746 4.457204 22.0369 6.042439 27.77068 2.982546 4.470849 22.39411 6.965409 27.52788 3.39257 4.373038 22.32321 6.796694 28.5575 3.826196 4.394468 21.83298 8.396322 28.71434 4.28157 4.343588 21.92483 14.72625 28.38603 4.571213 4.34018 21.6612 8.029881 29.67196 4.797178 4.365769 21.04423 10.50954 30.4321 4.826605 4.371399 21.58224 10.36184 29.75423 4.76484 4.343413 22.22483 9.866554 29.76173 4.86346 4.425158 22.23887 15.35579 29.96246 4.180099 4.416647 21.55593 12.48051 30.59658 3.865416 4.3864 21.26381 13.86176 30.86967 2.713944 4.361495 23.23407 14.42617 31.1401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.59634< | 2.03775 | 4.478614 | 21.04661 | 9.530502 | 29.09402 |
| 2.982546 4.470849 22.39411 6.965409 27.52788 3.382577 4.373038 22.32321 6.798694 28.5575 3.826196 4.394468 21.83298 8.986322 28.71434 4.228157 4.343588 21.92483 14.72625 28.38603 4.571213 4.34018 21.8612 8.029881 29.67196 4.797178 4.365769 21.04423 10.50954 30.4321 4.826605 4.371399 21.58224 10.36184 29.75423 4.76484 4.343413 22.22483 9.866554 29.76173 4.88346 4.425158 22.23887 15.35579 29.96246 4.180099 4.416647 21.58593 12.48051 30.59658 3.865416 4.3864 21.26381 13.88176 30.88697 3.114223 4.276679 22.61502 16.58138 30.43067 2.713944 4.361495 23.23407 14.42617 31.1401 2.267749 4.46688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.8308 | 2.316633 | 4.398054 | 21.66835 | 6.735512 | 28.53684 |
| 3.38257 4.373038 22.32321 6.796694 28.5575 3.826196 4.394468 21.83298 8.986322 28.71434 4.228157 4.34588 21.92483 14.72625 28.36603 4.571213 4.34018 21.8612 8.029881 29.67196 4.797178 4.365769 21.04423 10.50954 30.4321 4.826605 4.371399 21.58224 10.36184 29.75423 4.76484 4.343413 22.22483 9.866554 29.76173 4.681707 4.436597 22.07774 10.25522 30.05064 4.488346 4.425158 22.23887 15.35579 29.96246 4.180099 4.416647 21.55593 12.48051 30.59658 3.865416 4.3864 21.26381 13.88176 30.88697 3.505896 4.333956 21.41456 17.94745 30.44748 3.114223 4.276679 22.61502 16.58138 30.43087 2.713944 4.361495 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.596 | 2.639746 | 4.457204 | 22.0369 | 6.042439 | 27.77068 |
| 3.826196 4.394468 21.83298 8.986322 28.71434 4.228157 4.343588 21.92483 14.72625 28.38603 4.571213 4.34018 21.6612 8.029881 29.67196 4.797178 4.365769 21.04423 10.50954 30.4321 4.826605 4.371399 21.58224 10.36184 29.75423 4.76484 4.343413 22.22483 9.866554 29.76173 4.681707 4.436597 22.07774 10.25522 30.05064 4.488346 4.425158 22.23887 15.35579 29.96246 4.180099 4.416647 21.55593 12.48051 30.59658 3.865416 4.3864 21.26381 13.88176 30.88697 3.505896 4.33956 21.41456 17.94745 30.44748 3.114223 4.276679 22.61502 16.58138 30.43087 2.713944 4.361495 23.23407 14.42617 31.14401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.5 | 2.982546 | 4.470849 | 22.39411 | 6.965409 | 27.52788 |
| 4.228157 4.343588 21.92483 14.72625 28.38603 4.571213 4.34018 21.8612 8.029881 29.67196 4.797178 4.365769 21.04423 10.50954 30.4321 4.826605 4.371399 21.58224 10.36184 29.75423 4.76484 4.343413 22.22483 9.866554 29.76173 4.681707 4.436597 22.07774 10.25522 30.05064 4.480346 4.425158 22.23887 15.35579 29.96246 4.180099 4.416647 21.55593 12.48051 30.59658 3.865416 4.3864 21.26381 13.88176 30.88697 3.505896 4.333956 21.41456 17.94745 30.44748 3.114223 4.276679 22.61502 16.58138 30.43087 2.713944 4.361495 23.23407 14.42617 31.14401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.1 | 3.398257 | 4.373038 | 22.32321 | 6.798694 | 28.5575 |
| 4.571213 4.34018 21.8612 8.029881 29.67196 4.797178 4.365769 21.04423 10.50954 30.4321 4.826605 4.371399 21.58224 10.36184 29.76423 4.76484 4.343413 22.22483 9.866554 29.76173 4.681707 4.436597 22.07774 10.25522 30.05064 4.18099 4.416647 21.55593 12.48051 30.59658 3.865416 4.3864 21.26381 13.88176 30.88697 3.505896 4.333956 21.41456 17.94745 30.44748 3.114223 4.276679 22.61502 16.58138 30.43087 2.713944 4.361495 23.23407 14.42617 31.14401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.314655 24.2507 8.0461 | 3.826196 | 4.394468 | 21.83298 | 8.986322 | 28.71434 |
| 4.797178 4.365769 21.04423 10.50954 30.4321 4.826605 4.371399 21.58224 10.36184 29.75423 4.76484 4.343413 22.22483 9.866554 29.76173 4.681707 4.436597 22.07774 10.25522 30.05064 4.488346 4.425158 22.23887 15.35579 29.96246 4.180099 4.416647 21.55593 12.48051 30.59658 3.865416 4.3864 21.26381 13.88176 30.88697 3.505896 4.333956 21.41456 17.94745 30.44748 3.114223 4.276679 22.61502 16.58138 30.43087 2.713944 4.361495 23.23407 14.42617 31.14401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.31465 24.2507 8.04 | 4.228157 | 4.343588 | 21.92483 | 14.72625 | 28.38603 |
| 4.826605 4.371399 21.58224 10.36184 29.75423 4.76484 4.343413 22.22483 9.866554 29.76173 4.681707 4.436597 22.07774 10.25522 30.05064 4.488346 4.425158 22.23887 15.35579 29.96246 4.180099 4.416647 21.55593 12.49051 30.59658 3.865416 4.3864 21.26381 13.88176 30.88697 3.505896 4.333956 21.41456 17.94745 30.44748 3.114223 4.276679 22.61502 16.58138 30.43087 2.713944 4.361495 23.23407 14.42617 31.14401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.314465 24.2507 8.046105 31.38668 1.323714 4.231457 24.59213 3. | 4.571213 | 4.34018 | 21.8612 | 8.029881 | 29.67196 |
| 4.76484 4.343413 22.22483 9.866554 29.76173 4.861707 4.436597 22.07774 10.25522 30.05064 4.488346 4.425158 22.23887 15.35579 29.96246 4.180099 4.416647 21.55593 12.48051 30.59658 3.865416 4.3864 21.26381 13.88176 30.88697 3.505896 4.333956 21.41456 17.94745 30.44748 3.114223 4.276679 22.61502 16.58138 30.43087 2.713944 4.361495 23.23407 14.42617 31.14401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.314465 24.2507 8.046105 31.38868 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.2 | 4.797178 | 4.365769 | 21.04423 | 10.50954 | 30.4321 |
| 4.681707 4.436597 22.07774 10.25522 30.05064 4.488346 4.425158 22.23887 15.35579 29.96246 4.180099 4.416647 21.55593 12.48051 30.59658 3.865416 4.3864 21.26381 13.88176 30.8697 3.505896 4.333956 21.41456 17.94745 30.44748 3.114223 4.276679 22.61502 16.58138 30.43087 2.713944 4.361495 23.23407 14.42617 31.14401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.314465 24.2507 8.046105 31.38868 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.236255 32.51636 | 4.826605 | 4.371399 | 21.58224 | 10.36184 | 29.75423 |
| 4.488346 4.425158 22.23887 15.35579 29.96246 4.180099 4.416647 21.55593 12.48051 30.59658 3.865416 4.3864 21.26381 13.88176 30.88697 3.505896 4.333956 21.41456 17.94745 30.44748 3.114223 4.276679 22.61502 16.58138 30.43087 2.713944 4.361495 23.23407 14.42617 31.14401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.31465 24.2507 8.046105 31.38668 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.236255 32.51636 | 4.76484 | 4.343413 | 22.22483 | 9.866554 | 29.76173 |
| 4.180099 4.416647 21.55593 12.48051 30.59658 3.865416 4.3864 21.26381 13.88176 30.88697 3.505896 4.333956 21.41456 17.94745 30.44748 3.114223 4.276679 22.61502 16.58138 30.43087 2.713944 4.361495 23.23407 14.42617 31.14401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.314465 24.2507 8.046105 31.38868 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.236255 32.51636 | 4.681707 | 4.436597 | 22.07774 | 10.25522 | 30.05064 |
| 3.865416 4.3864 21.26381 13.88176 30.88697 3.505896 4.333956 21.41456 17.94745 30.44748 3.114223 4.276679 22.61502 16.58138 30.43087 2.713944 4.361495 23.23407 14.42617 31.14401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.314465 24.2507 8.046105 31.38868 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.236255 32.51636 | 4.488346 | 4.425158 | 22.23887 | 15.35579 | 29.96246 |
| 3.505896 4.333956 21.41456 17.94745 30.44748 3.114223 4.276679 22.61502 16.58138 30.43087 2.713944 4.361495 23.23407 14.42617 31.14401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.314465 24.2507 8.046105 31.38868 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.236255 32.51636 | 4.180099 | 4.416647 | 21.55593 | 12.48051 | 30.59658 |
| 3.114223 4.276679 22.61502 16.58138 30.43087 2.713944 4.361495 23.23407 14.42617 31.14401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.314465 24.2507 8.046105 31.38868 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.236255 32.51636 | 3.865416 | 4.3864 | 21.26381 | 13.88176 | 30.88697 |
| 2.713944 4.361495 23.23407 14.42617 31.14401 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.314465 24.2507 8.046105 31.38868 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.236255 32.51636 | 3.505896 | 4.333956 | 21.41456 | 17.94745 | 30.44748 |
| 2.267749 4.406975 23.38508 14.72463 30.92817 1.819756 4.416688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.314465 24.2507 8.046105 31.38868 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.236255 32.51636 | 3.114223 | 4.276679 | 22.61502 | 16.58138 | 30.43087 |
| 1.819756 4.416688 23.45661 12.59634 31.12029 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.314465 24.2507 8.046105 31.38868 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.236255 32.51636 | 2.713944 | 4.361495 | 23.23407 | 14.42617 | 31.14401 |
| 1.361772 4.369437 23.68063 11.83083 31.4762 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.314465 24.2507 8.046105 31.38868 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.236255 32.51636 | 2.267749 | 4.406975 | 23.38508 | 14.72463 | 30.92817 |
| 1.002546 4.311464 23.49648 11.15881 31.86318 0.799991 4.314465 24.2507 8.046105 31.38868 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.236255 32.51636 | 1.819756 | 4.416688 | 23.45661 | 12.59634 | 31.12029 |
| 0.799991 4.314465 24.2507 8.046105 31.38868 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.236255 32.51636 | 1.361772 | 4.369437 | 23.68063 | 11.83083 | 31.4762 |
| 1.323714 4.231457 24.59213 3.284451 31.60847 1.814443 4.091058 24.8214 3.236255 32.51636 | 1.002546 | 4.311464 | 23.49648 | 11.15881 | 31.86318 |
| 1.814443 4.091058 24.8214 3.236255 32.51636 | 0.799991 | 4.314465 | 24.2507 | 8.046105 | 31.38868 |
| | 1.323714 | 4.231457 | 24.59213 | 3.284451 | 31.60847 |
| 2.115942 4.06501 24.48395 3.28644 32.3448 | 1.814443 | 4.091058 | 24.8214 | 3.236255 | 32.51636 |
| | 2.115942 | 4.06501 | 24.48395 | 3.28644 | 32.3448 |

| 2.301696 | 4.080801 | 23.7701 | 3.5572 | 32.34275 |
|----------|----------|----------|----------|----------|
| 4.516263 | 4.061301 | 24.50372 | 3.923043 | 32.46376 |
| 17.26166 | 4.062726 | 24.87166 | 3.8411 | 32.74006 |
| 21.70595 | 4.074844 | 25.63952 | 3.400129 | 32.86733 |
| 24.11887 | 4.086311 | 25.24811 | 3.378674 | 33.14595 |
| 25.11463 | 4.110612 | 25.39376 | 3.466917 | 33.1549 |
| 25.76827 | 4.143156 | 26.41948 | 3.382468 | 33.41369 |
| 26.72531 | 4.160414 | 26.52504 | 3.416674 | 33.07687 |
| 26.69017 | 4.099909 | 26.72166 | 3.392272 | 33.5225 |
| 25.95715 | 4.104258 | 26.78475 | 3.447652 | 33.54232 |
| 25.68533 | 4.11562 | 26.60247 | 3.380615 | 34.07403 |
| 29.87003 | 4.199548 | 26.44929 | 3.278543 | 33.672 |
| 30.76526 | 4.331681 | 25.96068 | 3.277901 | 33.59352 |
| 31.90675 | 4.439098 | 25.54199 | 3.305586 | 33.44948 |
| 32.3806 | 4.49177 | 25.6462 | 3.286813 | 34.40065 |
| 32.85431 | 4.478189 | 25.45307 | 3.268205 | 34.76349 |
| 31.95616 | 4.407237 | 24.71902 | 3.239109 | 34.20869 |
| 30.48603 | 4.41111 | 24.58105 | 3.295889 | 35.02668 |
| 25.60044 | 4.32193 | 24.58599 | 3.269244 | 34.98357 |
| 6.535758 | 4.250861 | 24.75396 | 3.179375 | 34.10815 |
| 1.884214 | 4.254025 | 25.4437 | 3.188052 | 33.75036 |
| 1.671804 | 4.294128 | 25.65033 | 3.232554 | 35.08093 |
| 1.692681 | 4.412866 | 24.85671 | 3.255627 | 35.63465 |
| 1.731734 | 4.322162 | 25.27688 | 3.372434 | 34.97998 |
| 2.085696 | 4.216899 | 24.45842 | 3.569352 | 34.09039 |
| 2.217047 | 4.312366 | 24.71326 | 3.203885 | 34.06093 |
| 2.535404 | 4.407898 | 25.32031 | 3.285922 | 34.06545 |
| 2.290888 | 4.488315 | 25.32062 | 3.180617 | 33.63551 |
| 2.168349 | 4.615558 | 25.18408 | 3.212589 | 34.70276 |
| 2.784539 | 4.699256 | 24.88783 | 3.218778 | 35.00507 |
| 3.319404 | 4.64131 | 25.53151 | 3.188667 | 34.36319 |
| 3.785362 | 4.673314 | 25.64061 | 3.263385 | 34.73316 |
| 4.121521 | 4.714151 | 25.16702 | 3.416986 | 35.28743 |
| 4.044935 | 4.699172 | 25.41594 | 3.351536 | 35.4067 |
| 3.991714 | 4.738387 | 24.72207 | 3.319391 | 34.32404 |
| 4.17099 | 4.727733 | 24.84289 | 3.621615 | 34.87834 |
| 4.228313 | 4.785574 | 24.98452 | 3.952769 | 35.01844 |
| 4.646462 | 4.774986 | 23.63329 | 3.477599 | 33.79607 |
| 4.552958 | 4.718985 | 23.84015 | 3.204277 | 33.82023 |
| 4.642774 | 4.690155 | 23.60577 | 3.190286 | 34.66378 |
| 4.622911 | 4.589245 | 25.04671 | 3.249341 | 34.5394 |

| 4.411876 | 4.609657 | 25.16472 | 3.22785 | 34.25446 |
|----------|----------|----------|----------|----------|
| 3.907443 | 4.598738 | 25.05277 | 3.310182 | 33.3994 |
| 4.835081 | 4.546607 | 26.00718 | 3.606764 | 33.31361 |
| 8.477765 | 4.503249 | 26.6242 | 3.344867 | 33.17148 |
| 11.68589 | 4.433472 | 26.48729 | 3.125118 | 34.19465 |
| 14.01993 | 4.37978 | 26.79613 | 3.421496 | 33.47849 |
| 15.66884 | 4.401134 | 27.54741 | 3.384796 | 33.19098 |
| 16.69291 | 4.441397 | 27.78967 | 3.641615 | 33.26058 |
| 17.44133 | 4.482541 | 27.67475 | 3.655224 | 34.01688 |
| 18.32611 | 4.519941 | 27.0695 | 3.12735 | 33.27992 |
| 19.1933 | 4.61387 | 27.09885 | 3.349954 | 32.77832 |
| 19.68338 | 4.71379 | 28.07422 | 3.134036 | 34.0328 |
| 20.06189 | 4.700534 | 29.29829 | 3.106524 | 33.91761 |
| 20.42477 | 4.560066 | 29.01747 | 3.169282 | 33.55602 |
| 20.79962 | 4.504657 | 29.6342 | 3.454893 | 33.53429 |
| 21.0972 | 4.594101 | 29.67451 | 3.142861 | 32.6224 |
| 21.34337 | 4.529839 | 29.5088 | 3.366739 | 32.88681 |
| 21.83097 | 4.486513 | 29.41759 | 3.403159 | 32.41238 |
| 22.20684 | 4.420943 | 29.49554 | 3.348938 | 32.6373 |
| 22.37608 | 4.373166 | 29.29628 | 3.163758 | 32.20461 |
| 22.51133 | 4.370707 | 29.30993 | 3.358588 | 31.89321 |
| 22.81944 | 4.407429 | 28.81804 | 3.381771 | 34.12598 |
| 22.97947 | 4.422386 | 28.20746 | 3.403949 | 34.15139 |
| 22.76203 | 4.376009 | 27.43574 | 3.671099 | 33.49997 |
| 22.99609 | 4.334874 | 27.29036 | 3.177278 | 33.62099 |
| 23.29 | 4.301733 | 27.973 | 3.875804 | 33.24766 |
| 23.41146 | 4.298758 | 28.46952 | 4.024596 | 33.26263 |

版权声明:本文为博主原创文章,未经博主允许不得转载。 https://blog.csdn.net/leixiaohua1020/article/details/9056443

文章标签: 视频序列 TI 时间信息 SI 空间信息

个人分类: 视频质量评价 我的开源项目

所属专栏: 视频质量评价

此PDF由spygg生成,请尊重原作者版权!!!

我的邮箱:liushidc@163.com