|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ID | First author | Published time | countries | AST  | AST guidelines | No. isolates | ciprofloxacin | SXT | gentamicin | kanamycin | tetracycline | chloramphenicol | spectinomycin | QA | References  |
| 11 | Thomas Fekete et al | 1989 | USA | MIC base | CLSI | 129 |  |  |  |  |  |  | 0 | 7 | (1) |
| 12 | Vivian G Loo et al | 1990 | Canada | MIC base | CLSI | 296 | 43 |  |  |  | 78 |  | 0 | 7 | (2) |
| 13 | Thomas Fekete et al | 1991 | USA | MIC base | CLSI | 77 |  |  |  |  | 39 |  |  | 4 | (3) |
| 15 | Shannon D. Putnam et al | 1992 | USA | MIC base | CLSI | 47 | 2 |  |  |  | 6 |  | 40 | 7 | (4) |
| 16 | Shannon D. Putnam et al | 1992 | USA | MIC base | CLSI | 71 | 14 |  |  |  | 45 |  | 62 | 7 | (4) |
| 23 | Roselyn J. Rice et al | 1994 | USA | MIC base | CLSI | 84 | 0 |  | 0 |  | 17 |  |  | 4 | (5) |
| 24 | Roselyn J. Rice et al | 1994 | USA | Mixed | CLSI | 62 | 0 |  |  |  |  |  |  | 4 | (6) |
| 25 | M.R. Joesef et al | 1994 | Indonesia | MIC base | CLSI | 86 | 0 |  | 0 |  | 84 | 0 | 16 | 7 | (7) |
| 26 | B West et al | 1995 | Tanzania | MIC base | WHO | 130 | 0 |  |  | 5 |  |  | 0 | 5 | (8) |
| 27 | S. Knapp et al | 1995 | Jamaica | MIC base | CLSI | 116 |  |  |  |  | 25 |  |  | 5 | (9) |
| 28 | Mariella C. Cummings et al | 1995 | USA | MIC base | CLSI | 324 |  |  |  |  | 46 |  | 0 | 6 | (10) |
| 29 | Mariella C. Cummings et al | 1995 | USA | MIC base | CLSI | 500 |  |  |  |  |  |  | 0 | 6 | (10) |
| 31 | Kai Man Kam et al | 1996 | China | MIC base | CLSI | 69 |  |  |  |  | 62 |  | 0 | 4 | (11) |
| 38 | Antti Nissinen et al | 1997 | Finland | MIC base | CLSI | 337 |  |  |  |  |  |  | 0 | 4 | (12) |
| 34 | R. A. Adegbola et al | 1997 | Gambia | Disc diffusion | CLSI | 111 |  | 109 |  |  | 100 | 0 |  | 6 | (13) |
| 36 | Joan S. Knapp et al | 1997 | Thailand | MIC base | CLSI | 101 | 1 |  |  | 22 |  |  | 0 | 7 | (14) |
| 40 | Andrea Guyot et al | 1998 | Liberia | MIC base | CLSI | 100 |  |  |  |  | 63 |  | 2 | 6 | (15) |
| 42 | Bahar Uddin Bhuiyan et al | 1999 | Bangladesh | MIC base | CLSI | 94 | 11 |  |  |  | 57 |  | 0 | 7 | (16) |
| 45 | Krishna Ray et al | 2000 | India | Disc diffusion | CLSI | 211 | 25 |  |  |  | 14 |  |  | 5 | (17) |
| 46 | Krishna Ray et al | 2000 | India | MIC base | CLSI | 55 | 12 |  |  |  | 10 |  |  | 5 | (17) |
| 44 | Cao Wenling et al | 2000 | China | MIC base | WHO | 203 | 123 |  |  |  |  |  | 0 | 6 | (18) |
| 51 | Jo-Anne R Dillon et al | 2001 | Brazil | MIC base | CLSI | 81 | 0 |  |  |  | 69 |  | 0 | 6 | (19) |
| 52 | Jo-Anne R Dillon et al | 2001 | Guyana | MIC base | CLSI | 70 | 0 |  |  |  | 62 |  | 0 | 6 | (19) |
| 53 | Jo-Anne R Dillon et al | 2001 | St. Vincent | MIC base | CLSI | 68 | 0 |  |  |  | 29 |  | 0 | 6 | (19) |
| 54 | Jo-Anne R Dillon et al | 2001 | Trinidad and Tobago | MIC base | CLSI | 144 | 0 |  |  |  | 57 |  | 0 | 6 | (19) |
| 56 | SHUNZHANG YE et al | 2002 | China | MIC base | WHO | 2549 | 873 |  |  |  |  |  |  | 7 | (20) |
| 57 | SHUNZHANG YE et al | 2001 | China | MIC base | WHO | 1060 |  |  |  |  | 976 |  |  | 7 | (20) |
| 59 | SHUNZHANG YE et al | 2001 | China | MIC base | WHO | 3175 |  |  |  |  |  |  | 14 | 7 | (20) |
| 69 | LAI-KING NG et al | 2002 | Canada | MIC base | CLSI | 2687 | 130 |  |  |  |  |  |  | 4 | (21) |
| 60 | Rafael Llanes et al | 2002 | Cuba | MIC base | CLSI | 120 |  |  |  |  | 65 |  |  | 6 | (22) |
| 63 | Shunzahng Ye et al | 2002 | China | MIC base | WHO | 2549 | 873 |  |  |  |  |  |  | 6 | (20) |
| 64 | Shunzahng Ye et al | 2002 | China | MIC base | WHO | 1060 |  |  |  |  | 986 |  |  | 6 | (20) |
| 66 | Shunzahng Ye et al | 2002 | China | MIC base | WHO | 3175 |  |  |  |  |  |  | 14 | 6 | (20) |
| 67 | David L. Trees et al | 2002 | Thailand | MIC base | WHO | 168 | 36 |  |  |  |  |  |  | 6 | (23) |
| 68 | Motiur Rahman et al | 2002 | Bangladesh | MIC base | CLSI | 311 | 94 |  |  |  | 212 |  | 0 | 6 | (24) |
| 61 | Margareta Ieven et al | 2002 | Indonesia | MIC base | CLSI | 267 | 0 |  |  | 0 | 264 |  | 0 | 7 | (25) |
| 70 | P Bhalla et al | 2002 | India | MIC base | CLSI | 44 | 40 |  |  |  | 1 |  |  | 7 | (26) |
| 72 | Michael Dan et al | 2002 | Israel | MIC base | CLSI | 100 | 61 |  |  |  | 8 |  | 0 | 7 | (27) |
| 77 | Jorge Sosa et al | 2003 | Cuba | MIC base | CLSI | 91 | 0 |  |  |  | 76 |  | 0 | 6 | (28) |
| 84 | Ehinmidu J O et al | 2004 | Nigeria | MIC base | CLSI | 57 | 21 |  | 6 |  | 57 |  | 53 | 4 | (29) |
| 82 | K Shigemura et al | 2004 | Japan | MIC base | CLSI | 87 | 60 |  |  |  | 17 |  | 0 | 5 | (30) |
| 81 | Jeongsik Yoo et al | 2004 | Korea | MIC base | CLSI | 817 | 161 |  |  |  | 469 |  | 0 | 6 | (31) |
| 85 | Derya Aydın et al | 2005 | Turkey | MIC base | CLSI | 78 | 1 |  |  |  | 14 |  |  | 6 | (32) |
| 87 | Yang Yang et al | 2006 | China | MIC base | CLSI | 159 | 157 |  |  |  | 90 |  | 0 | 4 | (33) |
| 86 | M. Enders et al | 2006 | Germany | MIC base | CLSI | 65 | 31 |  |  |  | 19 |  | 0 | 6 | (34) |
| 90 | Sunil Sethi et al | 2006 | India | MIC base | CLSI | 45 | 35 |  |  |  | 23 |  |  | 6 | (35) |
| 91 | Elizabeth A Donegan. et al | 2006 | Indonesia | MIC base | CLSI | 147 | 59 |  |  |  | 147 |  |  | 6 | (36) |
| 88 | Bei Wang et al | 2006 | China | MIC base | CLSI | 95 | 95 |  |  |  | 75 |  | 1 | 7 | (37) |
| 94 | P Khaki et al | 2007 | India | MIC base | CLSI | 60 | 59 |  |  |  | 12 |  | 0 | 6 | (38) |
| 96 | XIAOHONG SU et al | 2007 | China | MIC base | WHO | 1208 | 1167 |  |  |  |  |  | 7 | 6 | (39) |
| 98 | Veronica Vorobieva et al | 2007 | Russian | MIC base | WHO | 76 | 13 |  |  | 1 | 9 |  | 0 | 7 | (40) |
| 99 | Gayane Hovhannisyan et al | 2007 | Armenia | Disc diffusion | CLSI | 101 | 4 |  |  | 4 |  | 0 | 0 | 7 | (41) |
| 104 | M Bala et al | 2008 | India | MIC base | WHO | 26 | 20 |  |  |  |  |  | 1 | 5 | (42) |
| 100 | D A Lewis et al | 2008 | MC | MIC base | CLSI | 272 | 81 |  |  |  |  |  |  | 7 | (43) |
| 101 | Van Cao et al | 2008 | MC | MIC base | CLSI | 28 | 0 |  |  |  | 28 |  | 0 | 7 | (44) |
| 102 | Van Cao et al | 2008 | Madagascar | MIC base | CLSI | 68 | 2 |  |  |  | 64 |  | 1 | 7 | (44) |
| 103 | Van Cao et al | 2008 | Vietnam | MIC base | CLSI | 177 | 168 |  |  |  | 116 |  | 0 | 7 | (44) |
| 105 | S. Starnino et al | 2008 | Italy | MIC base | CLSI | 326 | 111 |  |  |  | 62 |  | 0 | 7 | (45) |
| 106 | J Lis-Tønder et al | 2009 | Denmark | MIC base | CLSI | 62 | 30 |  |  |  |  |  |  | 4 | (46) |
| 107 | Sheldon R. Morris et al | 2009 | USA | MIC base | CLSI | 79 |  |  |  |  | 55 |  |  | 6 | (47) |
| 108 | Teke Apalata et al | 2009 | Mozambique | MIC base | WHO | 55 | 0 |  |  | 4 | 42 |  |  | 6 | (48) |
| 111 | Lillian B. Brown et al | 2010 | Malawi | MIC base | CLSI | 100 | 0 |  | 0 | 0 | 77 |  | 0 | 5 | (49) |
| 112 | Monir Uddin Ahmed et al | 2010 | Bangladesh | MIC base | CLSI | 1766 | 1412 |  |  |  | 1516 |  | 1 | 5 | (50) |
| 115 | Michael Dan et al | 2010 | Israel | MIC base | CLSI | 406 | 88 |  |  |  | 62 |  | 0 | 6 | (51) |
| 116 | A Kubanova et al | 2010 | Russian | MIC base | CLSI | 1560 | 769 |  |  |  |  |  | 71 | 7 | (52) |
| 119 | Masatoshi Tanaka et al | 2011 | Japan | MIC base | CLSI | 242 | 171 |  |  |  | 68 |  | 0 | 4 | (53) |
| 117 | Slavyana Glazkova et al | 2011 | Belarus | MIC base | EUCAST | 80 | 28 |  | 0 |  | 21 |  | 0 | 5 | (54) |
| 123 | Vanessa G. Allen et al | 2011 | Canada | MIC base | CLSI | 149 | 42 |  |  |  | 38 |  | 0 | 6 | (55) |
| 120 | Supriya D. Mehta et al | 2011 | Kenya | MIC base | CLSI | 105 | 13 |  |  |  | 102 |  | 0 | 7 | (56) |
| 127 | Birgitta Olsen et al | 2012 | Guinea-Bissau | Mixed | EUCAST | 31 | 3 |  |  |  | 23 |  | 0 | 5 | (57) |
| 128 | Irene Martin et al | 2012 | Canada | MIC base | CLSI | 155 | 6 |  |  |  |  |  | 0 | 5 | (58) |
| 126 | S. O. Hjelmevoll et al | 2012 | Norway | MIC base | EUCAST | 114 | 89 |  |  |  |  |  | 0 | 6 | (59) |
| 130 | Janice Yee Chi Lo et al | 2012 | China | MIC base | CLSI | 8123 |  |  |  |  |  |  | 0 | 6 | (60) |
| 147 | Ryoichi Hamasuna et al | 2013 | Japan | MIC base | CLSI | 83 | 65 |  |  |  |  |  | 0 | 4 | (61) |
| 144 | Robert D. Kirkcaldy et al | 2013 | USA | MIC base | CLSI | 34600 | 4252 |  |  |  | 6526 |  |  | 5 | (62) |
| 137 | S. SOOD et al | 2013 | India | MIC base | CLSI | 18 | 16 |  |  |  | 7 |  | 0 | 6 | (63) |
| 138 | Ken Shimuta et al | 2013 | Japan | MIC base | CLSI | 193 | 151 |  |  |  |  |  | 0 | 6 | (64) |
| 139 | Sunil Sethi et al | 2013 | MC | MIC base | EUCAST | 65 | 61 |  |  |  | 36 |  | 0 | 6 | (65) |
| 148 | Jo-Anne R Dillon et al | 2013 | MC | MIC base | CLSI | 12730 | 1884 |  |  |  |  |  |  | 6 | (66) |
| 149 | Jo-Anne R Dillon et al | 2013 | MC | MIC base | CLSI | 1913 |  |  |  |  | 832 |  |  | 6 | (66) |
| 141 | Birgitta Olsen et al | 2013 | Vietnam | MIC base | CLSI | 108 | 106 |  |  |  | 89 |  | 0 | 7 | (67) |
| 142 | Irene Martin et al | 2013 | Canada | MIC base | CLSI | 7428 | 1125 |  |  |  |  |  | 0 | 7 | (68) |
| 143 | Irene Martin et al | 2013 | Canada | MIC base | CLSI | 7205 |  |  |  |  | 1638 |  | 0 | 7 | (68) |
| 145 | Lígia Maria Bedeschi Costa et al | 2013 | Brazil | MIC base | CLSI | 201 | 43 |  |  |  | 65 | 24 | 0 | 7 | (69) |
| 146 | Amina Hançali et al | 2013 | Morocco | MIC base | CLSI | 72 | 61 |  |  |  | 66 |  | 0 | 7 | (70) |
| 153 | Robert D Kirkcaldy et al | 2013 | USA | MIC base | CLSI | 37233 | 4840 |  |  |  |  |  | 0 | 7 | (62) |
| 154 | Robert D Kirkcaldy et al | 2013 | USA | MIC base | CLSI | 27056 |  |  |  |  | 3850 |  |  | 7 | (62) |
| 178 | G La Ruche et al | 2014 | France | MIC base | EUCAST | 7688 |  |  |  |  | 3413 |  |  | 4 | (71) |
| 180 | G La Ruche et al | 2014 | France | MIC base | EUCAST | 8550 |  |  |  |  |  |  | 0 | 4 | (71) |
| 181 | G La Ruche et al | 2014 | France | MIC base | EUCAST | 8648 | 3413 |  |  |  |  |  |  | 4 | (71) |
| 158 | ÉVA NEMES-NIKODÉM et al | 2014 | Hungary | MIC base | EUCAST | 52 | 29 |  |  |  | 49 |  | 0 | 5 | (72) |
| 165 | Sai Li et al | 2014 | China | MIC base | CLSI | 334 | 330 |  |  |  | 327 |  | 0 | 5 | (73) |
| 166 | Wei-Ming Gu et al | 2014 | China | MIC base | CLSI | 3036 | 2590 |  |  |  |  |  |  | 5 | (74) |
| 167 | Wei-Ming Gu et al | 2014 | China | MIC base | CLSI | 1798 |  |  |  |  | 910 |  |  | 5 | (74) |
| 168 | Wei-Ming Gu et al | 2014 | China | MIC base | CLSI | 3153 |  |  |  |  |  |  | 2 | 5 | (74) |
| 169 | Samo Jeverica et al | 2014 | Slovenia | MIC base | EUCAST | 194 | 80 |  |  |  | 93 |  | 0 | 5 | (75) |
| 170 | Nicole Nari Horn et al | 2014 | Germany | MIC base | EUCAST | 213 | 157 |  |  |  | 88 |  | 0 | 5 | (76) |
| 157 | D. Golparian et al | 2014 | Estonia | MIC base | EUCAST | 44 | 12 |  |  |  | 15 |  | 0 | 6 | (77) |
| 171 | Beata Mlynarczyk-Bonikowska et al | 2014 | Poland | MIC base | EUCAST | 228 | 138 |  |  |  | 98 |  | 0 | 6 | (78) |
| 172 | Shao-Chun Chen et al | 2014 | China | MIC base | EUCAST | 278 | 278 |  |  |  |  |  | 0 | 6 | (79) |
| 173 | Alexandra Brunner et al | 2014 | Hungary | MIC base | EUCAST | 582 | 384 |  |  |  | 499 |  | 0 | 6 | (80) |
| 159 | Bang-yong Zhu et al | 2014 | China | MIC base | WHO | 923 | 857 |  |  |  |  |  | 1 | 7 | (81) |
| 160 |  Heping Zheng et al | 2014 | China | MIC base | WHO | 1257 | 1157 |  |  |  |  |  | 0 | 7 | (82) |
| 161 | Judith Vandepitte et al | 2014 | Uganda | MIC base | EUCAST | 148 | 123 |  |  |  | 144 |  | 0 | 7 | (83) |
| 162 | Simbarashe Takuva et al | 2014 | Zimbabwe | MIC base | EUCAST | 66 | 4 |  |  | 0 |  |  |  | 7 | (84) |
| 163 | Simbarashe Takuva et al | 2014 | Zimbabwe | MIC base | EUCAST | 51 |  |  | 0 |  | 46 |  | 0 | 7 | (84) |
| 189 | S. W. Peterson et al | 2015 | Canada | MIC base | CLSI | 252 | 155 |  |  |  |  |  |  | 4 | (85) |
| 195 | Michelle J. Cole et al | 2015 | MC | MIC base | EUCAST | 1994 | 1055 |  |  |  |  |  | 0 | 4 | (86) |
| 183 | Fernando Cobo et al | 2015 | Spain | MIC base | EUCAST | 65 | 42 |  |  |  | 40 |  | 0 | 5 | (87) |
| 184 | Fernando Cobo et al | 2015 | Spain | MIC base | CLSI | 65 | 42 |  |  |  | 40 |  | 0 | 5 | (87) |
| 185 | Fiodar Lebedzeu et al | 2015 | Belarus | MIC base | EUCAST | 193 | 54 |  |  |  | 70 |  | 0 | 6 | (88) |
| 187 | Masatoshi Tanaka et al | 2015 | Japan | MIC base | CLSI | 677 | 480 |  |  |  | 115 |  | 0 | 6 | (89) |
| 190 |  Hyukmin Lee et al | 2015 | Korea | MIC base | EUCAST | 210 | 204 |  |  |  | 105 |  | 0 | 7 | (90) |
| 192 | Ryoichi Hamasuna et al | 2015 | Japan | MIC base | CLSI | 103 | 81 |  |  |  |  |  | 0 | 7 | (91) |
| 193 | T Bharara et al | 2015 | India | Mixed | CLSI | 135 | 86 |  |  |  | 36 |  | 0 | 7 | (92) |
| 198 | Alexey Kubanov et al | 2016 | Russian | MIC base | EUCAST | 124 | 50 |  |  |  | 21 |  | 0 | 5 | (93) |
| 209 | Rasheda Khanam et al | 2016 | Bangladesh | Disc diffusion | CLSI | 21 | 20 |  |  |  |  |  | 0 | 5 | (94) |
| 215 | Susan Azizmohammadi et al | 2016 | Iran | Disc diffusion | CLSI | 32 | 24 |  |  |  | 23 | 1 | 18 | 5 | (95) |
| 196 | Anna Carannante et al | 2016 | Italy | MIC base | CLSI | 65 | 0 |  |  |  |  |  |  | 6 | (96) |
| 197 | Irene Fuertes de Vegaa et al | 2016 | Spain | MIC base | EUCAST | 110 | 58 |  | 0 |  |  |  | 1 | 6 | (97) |
| 199 | Alexandra Brunner et al | 2016 | Hungary | MIC base | EUCAST | 192 | 76 |  |  |  | 134 |  | 0 | 6 | (98) |
| 200 | J. Serra-Pladevall et al | 2016 | Spain | MIC base | EUCAST | 329 | 162 |  |  |  |  |  | 0 | 6 | (99) |
| 203 | Chanwit Tribuddharat et al | 2016 | Thailand | MIC base | CLSI | 350 |  |  |  |  | 312 |  |  | 6 | (100) |
| 204 | Chanwit Tribuddharat et al | 2016 | Thailand | MIC base | CLSI | 30 |  |  |  |  |  |  | 0 | 6 | (100) |
| 205 | Chanwit Tribuddharat et al | 2016 | Thailand | MIC base | CLSI | 349 | 307 |  |  |  |  |  |  | 6 | (100) |
| 208 | T Regnath et al | 2016 | Germany | MIC base | EUCAST | 434 | 319 |  |  |  | 210 |  | 0 | 6 | (101) |
| 210 | Kauser Jabeen et al | 2016 | Pakistan | MIC base | CLSI | 100 | 86 |  |  |  | 51 |  | 0 | 6 | (102) |
| 212 | T Regnath et al | 2016 | Germany | MIC base | CLSI | 434 | 280 |  |  |  | 210 |  | 0 | 6 | (101) |
| 207 | Yu-Hua Lin et al | 2016 | Taiwan | Mixed | CLSI | 202 | 183 |  |  |  |  |  |  | 7 | (103) |
| 211 | Ching-Wai Cheng et al | 2016 | Taiwan | Disc diffusion | CLSI | 1090 | 909 |  |  |  |  |  |  | 7 | (104) |
| 220 | Rui-xing Yu et al | 2017 | China | MIC base | WHO | 244 | 243 |  |  |  |  |  | 0 | 5 | (105) |
| 227 | P. R. S. Lagace´-Wiens et al | 2017 | Canada | MIC base | CLSI | 112 | 69 |  |  |  | 95 |  | 0 | 5 | (106) |
| 216 | J. Serra-Pladeval et al | 2017 | spain | MIC base | EUCAST | 111 | 60 |  |  |  |  |  |  | 6 | (107) |
| 217 | LI Wei et al | 2017 | China | MIC base | WHO | 303 | 293 |  |  |  |  |  | 0 | 6 | (108) |
| 229 | Ricardo Gianecini et al | 2017 | Argentina | MIC base | CLSI | 44 | 43 |  |  |  | 42 |  |  | 6 | (109) |
| 230 | Clark Martin P. Araneta et al | 2017 | Philippines | Disc diffusion | CLSI | 86 |  |  |  |  |  |  | 6 | 6 | (110) |
| 232 | Clark Martin P. Araneta et al | 2017 | Philippines | Disc diffusion | CLSI | 82 | 64 |  |  |  |  |  |  | 6 | (110) |
| 233 | Clark Martin P. Araneta et al | 2017 | Philippines | Disc diffusion | CLSI | 78 |  |  |  |  | 58 |  |  | 6 | (110) |
| 234 | Clark Martin P. Araneta et al | 2017 | Philippines | Disc diffusion | CLSI | 86 |  |  |  |  |  |  | 6 | 6 | (110) |
| 218 | Ahmed S Latif et al | 2017 | Zimbabwe | MIC base | CLSI | 102 | 19 |  |  | 2 |  |  |  | 7 | (111) |
| 222 | Ting Peng et al | 2017 | China | Mixed | CLSI | 1249 | 1177 |  |  |  |  |  |  | 7 | (112) |
| 223 | Seema Sood et al | 2017 | India | MIC base | CLSI | 204 | 193 |  |  |  |  |  |  | 7 | (113) |
| 228 | Fa-Xing Jiang et al | 2017 | China | MIC base | CLSI | 126 | 126 |  |  |  | 103 |  | 0 | 7 | (114) |
| 261 | Sanne HI Hofstraat et al | 2018 | Netherlands | MIC base | EUCAST | 2521 | 938 |  |  |  |  |  |  | 4 | (115) |
| 237 | Susanne Buder et al | 2018 | Germany | MIC base | EUCAST | 537 | 349 |  |  |  |  |  |  | 5 | (116) |
| 247 | Laura M. Mann et al | 2018 | USA | MIC base | CLSI | 10403 |  |  | 0 |  |  |  |  | 5 | (117) |
| 259 | Simon R Harris et al | 2018 | MC | MIC base | EUCAST | 1504 | 562 |  |  |  |  |  | 0 | 5 | (118) |
| 243 | Carolle Y. Tayimetha et al | 2018 | Cameroon | Disc diffusion | CLSI | 198 | 35 |  |  |  | 116 | 14 | 5 | 6 | (119) |
| 246 | Johan H. Melendez et al | 2018 | USA | MIC base | CLSI | 143 | 63 |  | 0 |  | 15 |  |  | 6 | (120) |
| 248 | Yen-Hung Liu et al | 2018 | Taiwan | MIC base | CLSI | 266 | 244 |  |  |  |  |  | 1 | 6 | (121) |
| 251 | Ranmini Kularatne et al | 2018 | South Africa | MIC base | EUCAST | 854 |  |  |  |  |  |  | 0 | 6 | (122) |
| 371 | Savandalath Phouangsouvanh et al | 2018 | Laos | Disc diffusion | CLSI | 158 | 134 |  |  |  | 157 |  | 0 | 6 | (123) |
| 241 | Tshokey Tshokey et al | 2018 | Bhutan | Disc diffusion | WHO | 381 | 324 |  |  |  | 323 |  |  | 7 | (124) |
| 242 | Sidharath D. Thakur et al | 2018 | Canada | MIC base | CLSI | 685 | 12 |  |  |  | 40 |  | 0 | 7 | (125) |
| 244 | Pachara Sirivongrangson et al | 2018 | Thailand | MIC base | CLSI | 3143 | 2904 |  |  |  |  |  |  | 7 | (126) |
| 245 | Mahmuda Naznin et al | 2018 | Bangladesh | Disc diffusion | CLSI | 25 | 17 | 20 |  |  | 20 |  |  | 7 | (127) |
| 249 | Robyn S. Lee et al | 2018 | New Zealand | MIC base | CLSI | 398 | 126 |  |  |  | 106 |  | 0 | 7 | (128) |
| 250 | Sangeeta V. Kulkarni et al | 2018 | India | MIC base | CLSI | 124 | 122 |  |  |  | 57 |  | 0 | 7 | (129) |
| 252 | Shio-Shin Jean et al | 2018 | Taiwan | MIC base | CLSI | 129 | 126 |  |  |  |  |  |  | 7 | (130) |
| 254 | Jennifer Gratrix et al | 2018 | Canada | MIC base | CLSI | 1191 | 362 |  |  |  |  |  |  | 7 | (131) |
| 255 | Jennifer Gratrix et al | 2018 | Canada | MIC base | CLSI | 1898 |  |  |  |  | 301 |  |  | 7 | (131) |
| 256 | Ana Paula Ramalho da Costa-Lourenço et al | 2018 | Brazil | MIC base | CLSI | 116 | 75 |  |  |  | 77 |  |  | 7 | (132) |
| 257 | M. L. Bazzo et al | 2018 | Brazil | MIC base | CLSI | 550 | 306 |  |  |  | 339 |  |  | 7 | (133) |
| 240 | Addisu Gize Yeshanew et al | 2018 | Ethiopia | Disc diffusion | CLSI | 25 | 13 |  |  |  | 25 |  |  | 8 | (134) |
| 268 | Joana Calado et al | 2019 | Pourtugal | MIC base | EUCAST | 30 | 11 |  |  |  | 5 |  | 0 | 5 | (135) |
| 269 | Anna Carannante et al | 2019 | Italy | MIC base | EUCAST | 67 | 41 |  |  |  |  |  |  | 5 | (136) |
| 271 | Fernando Cobo et al | 2019 | Spain | MIC base | EUCAST | 134 | 92 |  |  |  | 74 |  | 0 | 5 | (137) |
| 281 | Santhuri Rambaran et al | 2019 | MC | MIC base | EUCAST | 319 | 223 |  |  |  | 319 |  |  | 5 | (138) |
| 290 | Mary Wandia Kivata et al | 2019 | Kenya | MIC base | EUCAST | 22 | 20 |  |  |  | 16 |  | 0 | 5 | (139) |
| 267 | M. D. Guerrero -Torres et al | 2019 | Spain | MIC base | EUCAST | 16 | 7 |  |  |  | 1 |  | 0 | 6 | (140) |
| 272 | Irya Boiko et al | 2019 | Ukraine | MIC base | EUCAST | 150 | 14 |  | 0 |  | 9 |  | 0 | 6 | (141) |
| 275 | Yijing Yang et al | 2019 | China | MIC base | CLSI | 124 | 123 |  |  |  | 74 |  |  | 6 | (142) |
| 278 | Alain Yéo et al | 2019 | Côte d'Ivoire | MIC base | EUCAST | 212 | 133 |  | 3 |  | 180 |  | 0 | 6 | (143) |
| 283 | Rafael Affini Martins et al | 2019 | Brazil | MIC base | EUCAST | 124 | 19 |  |  |  |  |  |  | 6 | (144) |
| 288 | Jing-Wei Liu et al | 2019 | China | MIC base | EUCAST | 470 |  |  | 0 |  |  |  | 2 | 6 | (145) |
| 292 | Ricardo A. Gianecini et al | 2019 | Argentina | MIC base | EUCAST | 158 |  |  |  |  |  |  | 59 | 6 | (146) |
| 293 | Ricardo A. Gianecini et al | 2019 | Argentina | MIC base | EUCAST | 3478 | 2097 |  |  |  | 1228 |  |  | 6 | (146) |
| 295 | Adam L. Bailey et al | 2019 | USA | MIC base | CLSI | 64 | 4 |  |  |  | 5 |  |  | 6 | (147) |
| 270 | Maartje Visser et al | 2019 | Netherlands | Mixed | EUCAST | 80 | 17 |  |  |  |  |  |  | 7 | (148) |
| 273 | Alexey Kubanov et al | 2019 | Russian | MIC base | CLSI | 444 |  |  |  |  | 111 |  |  | 7 | (149) |
| 277 | Wresti Indriatmi et al | 2019 | Indonesia | Disc diffusion | CLSI | 35 |  |  |  |  | 34 |  |  | 7 | (150) |
| 279 | Jing Yan et al | 2019 | China | MIC base | WHO | 379 | 379 |  |  |  | 303 |  | 0 | 7 | (151) |
| 282 | Xiaolin Qin et al | 2019 | China | MIC base | WHO | 704 | 691 |  |  |  | 603 |  | 0 | 7 | (152) |
| 285 | Emily Mabonga et al | 2019 | Uganda | Disc diffusion | CLSI | 16 | 16 |  | 0 |  | 16 |  |  | 7 | (153) |
| 286 | I Martin et al | 2019 | Canada | MIC base | CLSI | 4538 | 2137 |  |  |  | 2419 |  | 0 | 7 | (154) |
| 296 | Naiki Attram et al | 2019 | Ghana | MIC base | CLSI | 44 | 36 |  |  |  | 44 |  | 0 | 7 | (155) |
| 299 | Daniel Golparian et al | 2020 | Denmark | MIC base | EUCAST | 191 | 2 | 18 | 0 | 0 | 17 | 1 | 0 | 5 | (156) |
| 300 | Daniel Golparian et al | 2020 | Denmark | MIC base | EUCAST | 191 | 122 | 133 | 0 | 0 | 116 | 52 | 0 | 5 | (156) |
| 301 | C. Queirós et al | 2020 | Portugal | Mixed | EUCAST | 425 | 141 |  |  |  | 43 |  |  | 5 | (157) |
| 307 | Pham Thi Lan et al | 2020 | Vietnam | MIC base | EUCAST | 108 | 106 |  |  |  | 89 |  | 0 | 5 | (158) |
| 308 | Pham Thi Lan et al | 2020 | Vietnam | MIC base | EUCAST | 121 | 121 |  |  |  | 96 |  | 0 | 5 | (158) |
| 320 | Miguel Pinto et al | 2020 | Portugal | MIC base | EUCAST | 2551 |  |  |  |  |  |  | 0 | 5 | (159) |
| 322 | Miguel Pinto et al | 2020 | Portugal | MIC base | EUCAST | 2575 | 1109 |  |  |  |  |  |  | 5 | (159) |
| 297 | Irya Boiko et al | 2020 | Ukraine | MIC base | EUCAST | 150 | 17 |  | 0 |  | 9 |  | 0 | 6 | (160) |
| 302 | Urko Ibargoyen García et al | 2020 | Spain | Disc diffusion | CLSI | 731 | 341 |  | 0 |  | 115 |  | 0 | 6 | (161) |
| 303 | Kristian Alfsnes et al | 2020 | Norway | Mixed | EUCAST | 958 | 412 |  |  |  | 316 |  | 0 | 6 | (162) |
| 304 | Katy Town et al | 2020 | England | MIC base | EUCAST | 1277 | 464 |  |  |  |  |  |  | 6 | (163) |
| 331 | Liteboho D. Maduna et al | 2020 | MC | MIC base | EUCAST | 27 | 2 |  |  |  | 20 |  | 0 | 6 | (164) |
| 334 | Daniel Golparian et al | 2020 | Brazil | MIC base | EUCAST | 548 | 300 |  |  |  | 342 |  |  | 6 | (165) |
| 336 | Yuan Dong et al | 2020 | China | MIC base | EUCAST | 366 | 364 |  |  |  | 223 |  | 0 | 6 | (166) |
| 338 | T Crucitti et al | 2020 | Cameroon | Mixed | EUCAST | 396 | 255 |  |  |  |  |  |  | 6 | (167) |
| 339 | T Crucitti et al | 2020 | Cameroon | Mixed | EUCAST | 411 |  |  |  |  | 240 |  |  | 6 | (167) |
| 342 | T Crucitti et al | 2020 | Cameroon | Mixed | EUCAST | 410 |  |  |  |  |  |  | 8 | 6 | (167) |
| 306 | Paula Salmerón et al | 2020 | Spain | MIC base | CLSI | 2036 | 1044 |  |  |  |  |  | 0 | 7 | (168) |
| 316 | Feng Wang et al | 2020 | China | MIC base | WHO | 1282 | 1249 |  |  |  |  |  | 0 | 7 | (169) |
| 324 | Carrie Nacht et al | 2020 | Kenya | Disc diffusion | CLSI | 35 |  |  | 18 |  |  |  |  | 7 | (170) |
| 325 | Carrie Nacht et al | 2020 | Kenya | Disc diffusion | CLSI | 34 | 34 |  |  |  | 34 |  |  | 7 | (170) |
| 330 | Tatum D. Mortimer et al | 2020 | USA | MIC base | CLSI | 889 | 216 |  |  |  |  |  |  | 7 | (171) |
| 333 | Ranmini Kularatne et al | 2020 | MC | MIC base | CLSI | 272 |  |  | 26 |  |  |  |  | 7 | (172) |
| 335 | Surafel Fentaw et al | 2020 | Ethiopia | Mixed | CLSI | 361 | 217 |  |  |  |  |  | 11 | 7 | (173) |
| 343 | Paul C. Adamson et al | 2020 | Vietnam | Disc diffusion | CLSI | 409 | 402 |  |  |  | 337 |  |  | 7 | (174) |
| 345 | Paul C. Adamson et al | 2020 | Vietnam | Disc diffusion | CLSI | 408 |  |  |  |  |  |  | 0 | 7 | (174) |
| 346 | Zhou Zheng et al | 2020 | China | MIC base | CLSI | 55 | 50 |  |  |  | 19 |  | 0 | 7 | (175) |
| 319 | Addisu Sahile et al | 2020 | Ethiopia | Disc diffusion | CLSI | 31 | 4 |  |  |  | 17 |  | 0 | 8 | (176) |
| 350 | Magnus Unemo et al | 2021 | MC | MIC base | EUCAST | 1209 | 603 |  |  |  |  |  |  | 5 | (177) |
| 357 | Jing Yan et al | 2021 | China | MIC base | EUCAST | 70 | 70 |  |  |  | 41 |  | 0 | 5 | (178) |
| 358 | Masatoshi Tanaka et al | 2021 | Japan | MIC base | CLSI | 17 | 2 |  |  |  | 9 |  | 0 | 5 | (179) |
| 359 | Masatoshi Tanaka et al | 2021 | Japan | MIC base | CLSI | 33 | 29 |  |  |  | 10 |  | 0 | 5 | (179) |
| 363 | Manuel C. Jamoralin et al | 2021 | Philippines | MIC base | CLSI | 21 | 19 |  |  |  | 14 |  |  | 5 | (180) |
| 348 | Jolinda de Korne-Elenbaas et al | 2021 | Netherlands | MIC base | EUCAST | 318 | 172 |  |  |  |  |  |  | 6 | (181) |
| 349 | Aliaksandra Aniskevich et al | 2021 | Belarus | MIC base | EUCAST | 522 | 129 |  | 0 |  | 145 |  | 0 | 6 | (182) |
| 352 | Paula Salmero´n et al | 2021 | Spain | MIC base | EUCAST | 2416 | 1358 |  |  |  |  |  |  | 6 | (183) |
| 361 | Saliya Karymbaeva et al | 2021 | Kyrgyzstan | MIC base | EUCAST | 156 | 138 |  | 1 | 4 | 41 |  | 0 | 6 | (184) |
| 362 | Francis Kakooza et al | 2021 | Uganda | MIC base | CLSI | 458 | 456 |  | 0 |  |  |  |  | 6 | (185) |
| 368 | Susanne Jacobsson et al | 2021 | MC | MIC base | EUCAST | 15792 | 8164 |  |  |  |  |  |  | 6 | (186) |
| 356 | Bingming Zhu et al | 2021 | China | MIC base | WHO | 304 | 264 |  |  |  |  |  |  | 7 | (187) |
| 370 | Wenjing Le et al | 2021 | China | MIC base | CLSI | 986 | 986 |  |  |  | 832 |  | 0 | 7 | (188) |

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**Systematic literature search**

**Screening and eligibility of records**

Our initial search yielded 2350 reports. After removing 125 duplicates, 2225 unique reports remained. Following title and abstract screening, 1945 reports were excluded based on the following reasons:

Not relevant to the research question: 1,015

Not meeting study design criteria: 620

Incorrect population: 210

Outcome not measured: 100