

Table S1. Location of collection of reference samples for the development of the nucleotide signature.

| Voucher No. | Latin Name                     | Sampling part | Collection Set                                   |
|-------------|--------------------------------|---------------|--------------------------------------------------|
| WWZ01       | <i>Schisandra chinensis</i>    | fruit         | Sichuan Hehuachi Herb Market                     |
| WWZ02       | <i>Schisandra chinensis</i>    | fruit         | Sichuan Hehuachi Herb Market                     |
| WWZ03       | <i>Schisandra chinensis</i>    | fruit         | Chengdu, Sichuan                                 |
| WWZ04       | <i>Schisandra chinensis</i>    | fruit         | Hebei Anguo Herb Market                          |
| WWZ05       | <i>Schisandra chinensis</i>    | fruit         | Hebei Anguo Herb Market                          |
| WWZ06       | <i>Schisandra chinensis</i>    | fruit         | Anhui Bozhou Herb Market                         |
| WWZ07       | <i>Schisandra chinensis</i>    | fruit         | Anhui Bozhou Herb Market                         |
| WWZ08       | <i>Schisandra chinensis</i>    | fruit         | Anhui Bozhou Herb Market                         |
| WWZ09       | <i>Schisandra chinensis</i>    | fruit         | Anhui Bozhou Herb Market                         |
| WWZ10       | <i>Schisandra chinensis</i>    | fruit         | Anhui Bozhou Herb Market                         |
| WWZ11       | <i>Schisandra chinensis</i>    | fruit         | Anhui Bozhou Herb Market                         |
| WWZ12       | <i>Schisandra chinensis</i>    | fruit         | Anhui Bozhou Herb Market                         |
| WWZ13       | <i>Schisandra chinensis</i>    | fruit         | Anhui Bozhou Herb Market                         |
| WWZ14       | <i>Schisandra chinensis</i>    | fruit         | Fushun, Liaoning                                 |
| WWZ15       | <i>Schisandra chinensis</i>    | fruit         | Fushun, Liaoning                                 |
| WWZ16       | <i>Schisandra chinensis</i>    | fruit         | Fushun, Liaoning                                 |
| WWZ17       | <i>Schisandra chinensis</i>    | fruit         | Yulin, Guangxi                                   |
| WWZ18       | <i>Schisandra chinensis</i>    | fruit         | Jiagedaqi, Heilongjiang                          |
| WWZ19       | <i>Schisandra chinensis</i>    | fruit         | Yanji, Jilin                                     |
| WWZ20       | <i>Schisandra chinensis</i>    | fruit         | Changchun, Jilin                                 |
| WWZ21       | <i>Schisandra chinensis</i>    | fruit         | Changchun, Jilin                                 |
| WWZ22       | <i>Schisandra chinensis</i>    | fruit         | Changchun, Jilin                                 |
| WWZ23       | <i>Schisandra chinensis</i>    | fruit         | Changchun, Jilin                                 |
| WWZ24       | <i>Schisandra chinensis</i>    | fruit         | Changchun, Jilin                                 |
| WWZ25       | <i>Schisandra chinensis</i>    | fruit         | Changchun, Jilin                                 |
| WWZ26       | <i>Schisandra chinensis</i>    | fruit         | Dongjing, Japan                                  |
| WWZ27       | <i>Schisandra chinensis</i>    | fruit         | Shenzhen Institute For Drug Control              |
| WWZ28       | <i>Schisandra chinensis</i>    | leaf          | Donglingshan, Beijing                            |
| NWWZ01      | <i>Schisandra sphenanthera</i> | fruit         | Chengdu, Sichuan                                 |
| NWWZ02      | <i>Schisandra sphenanthera</i> | fruit         | Sichuan Hehuachi Herb Market                     |
| NWWZ03      | <i>Schisandra sphenanthera</i> | fruit         | Lvye Company                                     |
| NWWZ04      | <i>Schisandra sphenanthera</i> | fruit         | Xian, Shanxi                                     |
| NWWZ05      | <i>Schisandra sphenanthera</i> | fruit         | Jiujiang, Jiangxi                                |
| NWWZ06      | <i>Schisandra sphenanthera</i> | fruit         | Anhui Bozhou Herb Market                         |
| NWWZ07      | <i>Schisandra sphenanthera</i> | fruit         | Anhui Bozhou Herb Market                         |
| NWWZ08      | <i>Schisandra sphenanthera</i> | fruit         | Anhui Bozhou Herb Market                         |
| NWWZ09      | <i>Schisandra sphenanthera</i> | fruit         | Shenzhen Institute For Drug Control              |
| NWWZ10      | <i>Schisandra sphenanthera</i> | fruit         | National Institutes for Food and Drug<br>Control |

|        |                                |          |                                                  |
|--------|--------------------------------|----------|--------------------------------------------------|
| NWWZ11 | <i>Schisandra sphenanthera</i> | fruit    | National Institutes for Food and Drug<br>Contral |
| NWWZ12 | <i>Schisandra sphenanthera</i> | fruit    | Changzhi, Shanxi                                 |
| NWWZ13 | <i>Schisandra sphenanthera</i> | fruit    | Changzhi, Shanxi                                 |
| NWWZ14 | <i>Schisandra sphenanthera</i> | leaf     | Nanyang, Henan                                   |
| NWWZ15 | <i>Schisandra sphenanthera</i> | leaf     | Lushan, Jiangxi                                  |
| NWWZ16 | <i>Schisandra sphenanthera</i> | leaf     | Lushan, Jiangxi                                  |
| NWWZ17 | <i>Schisandra sphenanthera</i> | leaf     | Lushan, Jiangxi                                  |
| NWWZ18 | <i>Schisandra sphenanthera</i> | leaf     | Lushan, Jiangxi                                  |
| NWWZ19 | <i>Schisandra sphenanthera</i> | leaf     | Shennongjia Scenic Area, Hubei                   |
| NWWZ20 | <i>Schisandra sphenanthera</i> | leaf     | Shennongjia Scenic Area, Hubei                   |
| NWWZ21 | <i>Schisandra sphenanthera</i> | seedling | Ruili, Yunnan                                    |

Table S2. Characteristics of the *Schisandra* genus derived from GenBank.

| Voucher No. | Latin Name                                 | GenBank Accession No. |
|-------------|--------------------------------------------|-----------------------|
| 1           | <i>Schisandra arisanensis</i>              | KP689642              |
| 2           | <i>Schisandra arisanensis</i>              | KP689641              |
| 3           | <i>Schisandra arisanensis</i>              | KP689640              |
| 4           | <i>Schisandra arisanensis</i>              | KP689639              |
| 5           | <i>Schisandra arisanensis</i>              | KP689638              |
| 6           | <i>Schisandra bicolor</i>                  | DQ342255              |
| 7           | <i>Schisandra bicolor</i>                  | KP689682              |
| 8           | <i>Schisandra bicolor</i>                  | KP689681              |
| 9           | <i>Schisandra bicolor var. tuberculata</i> | AF263442              |
| 10          | <i>Schisandra elongata</i>                 | KP689651              |
| 11          | <i>Schisandra elongata</i>                 | KP689650              |
| 12          | <i>Schisandra glabra</i>                   | DQ342254              |
| 13          | <i>Schisandra glabra</i>                   | EF138799              |
| 14          | <i>Schisandra glabra</i>                   | AF163720              |
| 15          | <i>Schisandra glaucescens</i>              | AF263439              |
| 16          | <i>Schisandra glaucescens</i>              | KP689649              |
| 17          | <i>Schisandra glaucescens</i>              | JQ712976              |
| 18          | <i>Schisandra glaucescens</i>              | AF163707              |
| 19          | <i>Schisandra grandiflora</i>              | KP689674              |
| 20          | <i>Schisandra grandiflora</i>              | KP689673              |
| 21          | <i>Schisandra grandiflora</i>              | KP689672              |
| 22          | <i>Schisandra grandiflora</i>              | KP689669              |
| 23          | <i>Schisandra grandiflora</i>              | KP689668              |
| 24          | <i>Schisandra grandiflora</i>              | KP689664              |
| 25          | <i>Schisandra grandiflora</i>              | AF163707              |
| 26          | <i>Schisandra henryi</i>                   | KY523601              |
| 27          | <i>Schisandra henryi</i>                   | MH270476              |
| 28          | <i>Schisandra henryi</i>                   | MH270475              |

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|----|--------------------------------------------------|----------|
| 29 | <i>Schisandra henryi</i>                         | KY884781 |
| 30 | <i>Schisandra henryi</i>                         | KY884780 |
| 31 | <i>Schisandra henryi</i>                         | KY884779 |
| 32 | <i>Schisandra henryi</i>                         | KY223658 |
| 33 | <i>Schisandra henryi</i>                         | KP689652 |
| 34 | <i>Schisandra henryi</i>                         | KP689653 |
| 35 | <i>Schisandra henryi</i>                         | KP689654 |
| 36 | <i>Schisandra henryi</i>                         | KP689655 |
| 37 | <i>Schisandra henryi</i>                         | KP689656 |
| 38 | <i>Schisandra henryi</i>                         | AF263435 |
| 39 | <i>Schisandra henryi</i>                         | AF163708 |
| 40 | <i>Schisandra plena</i>                          | AF263443 |
| 41 | <i>Schisandra plena</i>                          | KP689688 |
| 42 | <i>Schisandra propinqua</i>                      | KP689687 |
| 43 | <i>Schisandra propinqua</i>                      | KP689686 |
| 44 | <i>Schisandra propinqua</i>                      | KP689685 |
| 45 | <i>Schisandra propinqua</i>                      | KP689684 |
| 46 | <i>Schisandra propinqua</i>                      | KP689683 |
| 47 | <i>Schisandra propinqua</i>                      | JF978531 |
| 48 | <i>Schisandra propinqua</i>                      | JF978530 |
| 49 | <i>Schisandra propinqua</i>                      | JF978529 |
| 50 | <i>Schisandra propinqua</i>                      | AF163717 |
| 51 | <i>Schisandra propinqua</i>                      | KY884783 |
| 52 | <i>Schisandra propinqua</i>                      | KY884782 |
| 53 | <i>Schisandra propinqua</i> var. <i>sinensis</i> | AF263444 |
| 54 | <i>Schisandra pubescens</i>                      | AF263436 |
| 55 | <i>Schisandra pubescens</i>                      | KP689661 |
| 56 | <i>Schisandra pubescens</i>                      | KP689660 |
| 57 | <i>Schisandra pubescens</i>                      | KP689659 |
| 58 | <i>Schisandra pubescens</i>                      | KP689658 |
| 59 | <i>Schisandra pubescens</i>                      | KP689657 |
| 60 | <i>Schisandra pubescens</i>                      | JF978533 |
| 61 | <i>Schisandra pubescens</i>                      | JF978532 |
| 62 | <i>Schisandra pubescens</i>                      | KY563602 |
| 63 | <i>Schisandra pubescens</i>                      | AF163709 |
| 64 | <i>Schisandra repanda</i>                        | KX815928 |
| 65 | <i>Schisandra repanda</i>                        | KP689680 |
| 66 | <i>Schisandra rubriflora</i>                     | AF263440 |
| 67 | <i>Schisandra rubriflora</i>                     | KP689671 |
| 68 | <i>Schisandra rubriflora</i>                     | KP689670 |
| 69 | <i>Schisandra rubriflora</i>                     | KP689667 |
| 70 | <i>Schisandra rubriflora</i>                     | KP689666 |
| 71 | <i>Schisandra rubriflora</i>                     | KP689665 |
| 72 | <i>Schisandra rubriflora</i>                     | KP689663 |

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|-----|-------------------------------|----------|
| 73  | <i>Schisandra rubriflora</i>  | KP689662 |
| 74  | <i>Schisandra rubriflora</i>  | KY884784 |
| 75  | <i>Schisandra rubriflora</i>  | KY884785 |
| 76  | <i>Schisandra rubriflora</i>  | KY884786 |
| 77  | <i>Schisandra rubriflora</i>  | KY884787 |
| 78  | <i>Schisandra rubriflora</i>  | KY523603 |
| 79  | <i>Schisandra rubriflora</i>  | KY523604 |
| 80  | <i>Schisandra rubriflora</i>  | AF163706 |
| 81  | <i>Schisandra sphaerandra</i> | KY523607 |
| 82  | <i>Schisandra sphaerandra</i> | KY523608 |
| 83  | <i>Schisandra viridis</i>     | AF163703 |
| 84  | <i>Schisandra viridis</i>     | JF978539 |
| 85  | <i>Schisandra viridis</i>     | JF978540 |
| 86  | <i>Schisandra viridis</i>     | AF263438 |
| 87  | <i>Schisandra viridis</i>     | KP689643 |
| 88  | <i>Schisandra viridis</i>     | JF978540 |
| 89  | <i>Schisandra viridis</i>     | JF978539 |
| 90  | <i>Schisandra viridis</i>     | AF163703 |
| 91  | <i>Schisandra chinensis</i>   | AB558158 |
| 92  | <i>Schisandra chinensis</i>   | KP893160 |
| 93  | <i>Schisandra chinensis</i>   | KP893161 |
| 94  | <i>Schisandra chinensis</i>   | KP893162 |
| 95  | <i>Schisandra chinensis</i>   | KP893163 |
| 96  | <i>Schisandra chinensis</i>   | KP893164 |
| 97  | <i>Schisandra chinensis</i>   | KP893165 |
| 98  | <i>Schisandra chinensis</i>   | KP893166 |
| 99  | <i>Schisandra chinensis</i>   | KP893167 |
| 100 | <i>Schisandra chinensis</i>   | KP893159 |
| 101 | <i>Schisandra chinensis</i>   | KP893158 |
| 102 | <i>Schisandra chinensis</i>   | AF163710 |
| 103 | <i>Schisandra chinensis</i>   | JF970271 |
| 104 | <i>Schisandra chinensis</i>   | MF096273 |
| 105 | <i>Schisandra chinensis</i>   | MF096274 |
| 106 | <i>Schisandra chinensis</i>   | MF096275 |
| 107 | <i>Schisandra chinensis</i>   | MF096276 |
| 108 | <i>Schisandra chinensis</i>   | MF096277 |
| 109 | <i>Schisandra chinensis</i>   | MF096278 |
| 110 | <i>Schisandra chinensis</i>   | KX815921 |
| 111 | <i>Schisandra chinensis</i>   | KX815922 |
| 112 | <i>Schisandra chinensis</i>   | KX815923 |
| 113 | <i>Schisandra chinensis</i>   | KX815924 |
| 114 | <i>Schisandra chinensis</i>   | KX815925 |
| 115 | <i>Schisandra chinensis</i>   | KX815926 |
| 116 | <i>Schisandra chinensis</i>   | KX815927 |

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|-----|--------------------------------|----------|
| 117 | <i>Schisandra chinensis</i>    | KX674907 |
| 118 | <i>Schisandra chinensis</i>    | KX674856 |
| 119 | <i>Schisandra chinensis</i>    | KX674855 |
| 120 | <i>Schisandra chinensis</i>    | KT285119 |
| 121 | <i>Schisandra chinensis</i>    | KT285120 |
| 122 | <i>Schisandra chinensis</i>    | KT285121 |
| 123 | <i>Schisandra chinensis</i>    | KP689675 |
| 124 | <i>Schisandra chinensis</i>    | KP689676 |
| 125 | <i>Schisandra chinensis</i>    | KP689677 |
| 126 | <i>Schisandra chinensis</i>    | KP689678 |
| 127 | <i>Schisandra chinensis</i>    | KP689679 |
| 128 | <i>Schisandra chinensis</i>    | KT898226 |
| 129 | <i>Schisandra chinensis</i>    | AF263441 |
| 130 | <i>Schisandra sphenanthera</i> | KP893168 |
| 131 | <i>Schisandra sphenanthera</i> | KP893169 |
| 132 | <i>Schisandra sphenanthera</i> | KP893170 |
| 133 | <i>Schisandra sphenanthera</i> | KP893171 |
| 134 | <i>Schisandra sphenanthera</i> | KP893172 |
| 135 | <i>Schisandra sphenanthera</i> | KP893173 |
| 136 | <i>Schisandra sphenanthera</i> | AF163705 |
| 137 | <i>Schisandra sphenanthera</i> | KY523609 |
| 138 | <i>Schisandra sphenanthera</i> | KP689644 |
| 139 | <i>Schisandra sphenanthera</i> | KP689645 |
| 140 | <i>Schisandra sphenanthera</i> | KP689646 |
| 141 | <i>Schisandra sphenanthera</i> | KP689647 |
| 142 | <i>Schisandra sphenanthera</i> | KP689648 |
| 143 | <i>Schisandra sphenanthera</i> | AF263437 |

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