**Supplementary materials**

**Table S1.** Passport information of collected germplasm of *Indigofera oblongifolia* (10 accessions)

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| --- | --- | --- | --- | --- | --- | --- |
| **S. no.** | **Site of collection** | **Latitude****°N** | **Longitude****°E** | **Altitude****(m)** | **Frequency** | **Habitat** |
| **Village** | **District** |
| 1. | Amarsagar | Jaisalmer | 26.93 | 70.87 | 260.3 | Low | Wasteland |
| 2. | Devikot | Jaisalmer | 26.71 | 71.19 | 267.0 | Low-Medium | Wasteland |
| 3. | Dabla | Jaisalmer | 26.79 | 71.09 | 276.1 | Low-Medium | Wasteland |
| 4. | CAZRI RMC Jadan | Pali | 25.84 | 73.47 | 233.8 | Low | Scrubland |
| 5. | Kajangarh | Pali | 25.83 | 73.21 | 221.3 | Low | Roadside |
| 6. | Khurdai | Pali | 25.72 | 73.25 | 222.2 | Low | Roadside |
| 7. | Ropawash | Pali | 25.76 | 73.23 | 206.0 | Low | Roadside |
| 8. | Devikot | Jaisalmer | 26.72 | 71.18 | 275.2 | Low | Arable |
| 9. | Dabla | Jaisalmer | 26.79 | 71.09 | 272.8 | Low | Wasteland |
| 10. | Barahmsar | Jaisalmer | 27.04 | 70.90 | 153.3 | Low | Wasteland |

**Table S2.** Details of phytochemicals estimation methods from leaves of *Indigofera* *oblongifolia*

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| **Phytochemicals** | **Estimation methods** |
| Total antioxidant capacity (FRAP) | The FRAP (Ferric reducing antioxidant power assay) procedure described by Benzie and Strain (1996) was followed for the total antioxidant activity assay of plant leaf samples. Briefly, 1 g leaf sample was extracted with 10 mL of 80% ethanol and centrifuged at 10,000 rpm for 10 minutes. FRAP reagent was prepared by mixing acetate buffer (300mM, pH 3.6), TPTZ (10 mM) and FeCl3 (20 mM) in 10:1:1 proportion. A 100 µL aliquot of the sample was reacted with 3 mL FRAP reagent and incubated at 37°C for 30 minutes. The absorbance was measured at 595 nm. The values were expressed as the concentration of antioxidants having a ferric reducing ability equivalent (FRE) to that of 1 mmol L-1 FeSO4. |
| Estimation of total phenolics | Total phenolic content was determined using Folin Ciocalteu (FC) assay (1999). 1 g leaf sample was extracted with 10 mL of 80% ethanol in pestle mortar followed by centrifugation. The supernatant was separated and evaporated under vacuum. The dried samples were dissolved in 5 mL distilled water. A 100 μL aliquot was used and the intensity of the colour obtained with Folin–Ciocâlteu’s phenol reagent was measured at 650 nm. Total phenol was expressed as mg catechol per 100g of fresh leaf sample. |
| Estimation of Total Saponin Content | Total saponin content was estimated by vanillin-sulfuric acid method described by Hiai *et al*. (1976). Standard saponin solution was prepared by dissolving 10 mg of diosgenin and add (16 ml) methanol and distilled water (4 ml). To the aliquots for each tube, vanillin reagent (8%, 0.25 ml) was added and sulphuric acid (72% v/v, 2.5 ml) added slowly on the inner side of the wall. The solutions were mixed well and the tubes were transferred to a 60 °C water bath. After 10 minutes incubation, the tubes were cooled in ice cold water bath for 3 – 4 min. The absorbance was measured at 544 nm against the reagent blank. 1 g fresh leaf sample was dissolved in aqueous methanol (80%, 10 ml). 0.25 ml of aliquot was taken for spectrophotometric determination for total saponins at 544 nm. |
| Total chlorophyll estimation | Total chlorophyll content was determined by DMSO (Dimethyl sulfoxide) reagent (Blanke 1992). 100 mg fresh leaf sample was incubated in 10 ml DMSO for the overnight and filtered. The absorbance was measured at 645,663 and 652 nm against the blank DMSO. |

**Table S3.** Phytochemicals reported in different plant parts of *Indigofera oblongifolia*

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| **Chemical Class** | **Identified compounds** | **Plant part** | **Reference** |
| Aliphatic alcohols | Psyllostearyl alcohol, Triacontanol | Stem | Lodha *et al*. 1990 |
| Phytosterols | β-Sitosterol, β-Sitosterol-β-D-glucoside, β-sitosterol glucoside, Acylated (16:0) β-sitosterol glucoside | Leaves | Abdel Moneim, 2016 |
| Antho-cyanidins | Cyanidin 3-O-[2"-O-(2‴-O-(sinapoyl)xylosyl)glc]5-O-glc, Cyanidin 3-O-[2"-O-xylosyl-6"-O-(p-coumaroyl) glucoside]5-O-malonylglc) |
| Flavones | Isovitexin, Luteolin 3,7’-di-*O*-glucoside, Lupinisoflavone, Apigenin-7-*O*-glucoside, Carlinoside, Luteolin, Luteolin C-6-(2" *O*-rhamnosyl)glucoside |
| Flavonols | Quercetin mono-sinapoyl-di-*O*-[glucose or galactose], Quercetin-rhamnoside dimer 1, Kaempferol 3-*O*-[rhamnosylglucosylglucoside] 7-*O*-rhamnoside, 3'-Methylluteolin 6-C-glucoside, Methyl-*O*-quercetin rhamnosylglucoside |
| Glucosinolates | 1-Methoxy indolyl glutathione, 5-Benzoyloxypentyl glucosinolate, Indol-3-ylmethyl glucosinolate, |
| Polyamines | Caffeoyl putrescine, Diferuloyl spermine, |
| Alkaloids | Indigotin, Indirubin |
| Phenolic acids | Vanillic acid, Hydroxycinnamic acid ester, 3-Hydroxybenzoic acid |
| Alkylated xanthene | Indigin | Whole plant | Sharif *et al*. 2005 |
| Fatty acids | Indigoferic acid |