# Supplementary Information

## **Table A1.** Media used in experiments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Reagents | M7pH = 6.9-7.9 |  | Reagents | K-mediumpH = 4.9 – 5.2 |
| CaCl2 ∙2 H2O | 293.80 mgL-1 |  | MgSO4 ∙ 7 H2O | 500.00 mgL-1 |
| MgSO4 ∙ 7 H2O | 123.30 mgL-1 |  | KH2PO4 | 503.20 mgL-1 |
| KCl | 5.80 mgL-1 |  | Na2EDTA ∙ 2 H2O | 9.00 mgL-1 |
| NaHCO3 | 64.8 mgL-1 |  | FeCl2 ∙ 6H2O | 5.40 mgL-1 |
| Na2SiO3 ∙ 5 H2O | 2.50 mgL-1 |  | MnCl ∙ 4 H2O | 3.62 mgL-1 |
| KH2PO4 | 0.143 mgL-1 |  | CuSO4 ∙ 5H2O | 0.08 mgL-1 |
| K2HPO4 | 0.184 mgL-1 |  | ZnSO4 ∙ 7H2O | 0.22 mgL-1 |
| Na2EDTA ∙ 2 H2O | 0.625 mgL-1 |  | KNO3 | 888.80 mgL-1 |
| FeSO4 ∙ 7H2O | 0.249 mgL-1 |  | Ca(NO3)2 ∙ 4 H2O | 944.00 mgL-1 |
| MnCl ∙ 4 H2O | 90.13 µgL-1 |  | H3BO3 | 2.86 mgL-1 |
| LiCl | 76.50 µgL-1 |  | Na2MoO4 ∙ 2 H2O | 0.12 mgL-1 |
| RbCl | 177.50 µgL-1 |  | Sucrose | 4100.00 mgL-1 |
| SrCl2 ∙ 6H2O | 38.00 µgL-1 |  | Tartaric acid | 3.00 mgL-1 |
| CuCl2 ∙ 2H2O | 4.19 µgL-1 |  |  |  |
| ZnCl2 | 13.00 µgL-1 |  |  |  |
| CoCl2 ∙ 6H2O | 10.00 µgL-1 |  |  |  |
| NaNO3 | 0.274 mgL-1 |  |  |  |
| H3BO3 | 0.714 mgL-1 |  |  |  |
| NaBr | 4.00 µgL-1 |  |  |  |
| Na2MoO4 ∙ 2 H2O | 15.40 µgL-1 |  |  |  |
| KI | 3.25 µgL-1 |  |  |  |
| Na2SeO3 | 2.19 µgL-1 |  |  |  |
| NH4VO3 | 0.575 µgL-1 |  |  |  |
| Thiamine hydrochloride | 75 µgL-1 |  |  |  |
| Cyanocobalmin (B12) | 1 µgL-1 |  |  |  |
| Biotin | 0.75 µgL-1 |  |  |  |

## **Table A2.1.** List of species Group A

|  |  |  |  |
| --- | --- | --- | --- |
| *Specie* |  | *Value* μgL-1 | *Reference* |
| *Daphnia pulex* | EC50 | 0,070.05-009 | Johnson & finley 1980 |
| *Pteronarcys californicus* | LC50 | 0,100.066-0.15 | Sanders & cope 1968 |
| *Daphnia magna* | EC50 | 0,2230.225-0.242 | Sturm & Hansen 1999  |
| *Simocephalus serrulatus* | EC50 | 0,280.16-0.47 | Johnson & Finley 1980 |
| *Gammarus lacustris* | LC50 | 0,500.37-0.68 | Johnson & Finley 1980 |
| *Cheumatopsyche brevilineata* | LC50 | 1,171.14-1.21 | Yokoyama et al 2009  |
| *Anopheles stephensi* | LC50 | 3,002.00-7.00 | Chitra & Pillai 1984  |
| *Chironomus sp* | LC50 | 10-20 | Sturm & Hansen 1999 |
| *Misgurnus. anguillicaudatus* | LC50 | 7,168 | Nan et al. 2013  |
| *Culex tritaeniorhynchus* | LC50 | 16,00 | Self et al 1974  |
| *Chironomus tentans* | LC50 | 17,6014.7-21.3 | Ankley & Collyard, 1995 |
| *Aedes vexans* | LC50 | 26,1017.1-30.8 | Rettich 1977  |
| *Culex pipiens* | LC50 | 29,0330.315.4-56.2 | Rongsriyam, (1968). Rettich 1977 |
| *Aedes punctor* | LC50 | 45,80 | Rettich 1977  |
| *Aedes cantans* | LC50 | 50,4015.7-77.9 | Rettich 1977  |
| *Hyalela azteca* | LC50 | 53,3043.2-66.4 | Ankley & Collyard, 1995 |
| *Culex pipiens quinquefasciatus* | LC50 | 95,00 | [Zhao et al., 2014](https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0095260&type=printable)  |
| *Mytilus trossulus L.* | EC50 | 100,00 | Kopecka-Pilarczyk 2010  |
| *Oncorhynchus clarkij* | LC50 | 170143-203 | Johnson & finley 1980 |
| *Salvelinus namaycush* | LC50 | 187110-320 | Johnson & finley 1980 |
| *Pseudokirchneriella subcapitata* | EC50 | 737,00698-770 | Yeh & Chen 2006 |
| *Lepomis macrochirus*  | LC50 | 869700-1080 | Johnson & finley 1980 |
| *Clarias gariepinus (Juvenile)* | LC50 | 1290,00880-1640 | Nwani et al 2014  |
| *Heterobranchus longifilis* | LC50 | 1320,001150-1780 | Ekpo et al 2004 |
| *Xenopus laevis* | LC50 | 1767,84 | Fiona et al. 2014  |
| *Lombricutus variegatus* | LC50 | 2660,001940-3630 | Ankley & Collyard, 1995  |
| *Gambusia affinis*  | LC50 | 5270,002660-10400 | Johnson & finley 1980 |
| *Poecilia reticulata* | LC50 | 5810,00 | Rongsriyam, 1968. |
| *Thiara torulosa*  | LC50 | 8700,007580-10020 | Bharathi & Rao 1989  |
| *Cyprinus carpio L* | LC50 | 9410,007540-11490 | Ural & Calta 2005  |
| *Pimephales promelas* | LC50 | 116007830-17200 | Johnson & finley 1980 |
| *Abramis brama L* | LC50 | 16660,0016140-17180 | Chuiko & Slynko 1995  |
| *Danio rerio (zebrafish embryo)* | LC50 | 39750,00 | Sisman et al. 2010 |

## **Table A2.2.** List of species Group B

|  |  |  |  |
| --- | --- | --- | --- |
| *Specie* |  | *Value µgL-1* | *Reference* |
| *Notonecta sp.* | LC50 | 1,23 | Konar S., 1969 |
| *Chironomus riparius* | EC50 | 8,736.2-10.4 | Fisher et al., 1993  |
| *Lymnaea acuminata* | LC50 | 1411-17 | Tripathi et al., 1998 |
| *Chironomus sp* | EC50 | 16,712.1-18.9 | Fisher et al., 1993  |
| *Chironumus tentans* | LC50 | 17,05 | Pawar et al., 2012 |
| *Aedes aegypti* | LC50 | 22 | Don pedro et al., 1985 |
| *Sphaerodema annulatum* | LC50 | 85 | Konar S., 1969 |
| *Ranatra filiformis* | LC50 | 130 | Konar S., 1969 |
| *Anisospteran nymphs* | LC50 | 150 | Konar S., 1969 |
| *Cybister sp.* | LC50 | 210 | Konar S., 1969 |
| *Neva sp.* | LC50 | 269 | Konar S., 1969 |
| *Belostoma indica* | LC50 | 280 | Konar S., 1969 |
| *Cirrhinus mrigala (juvenile)* | LC50 | 290 | Verma et al., 1984  |
| *Anodonte cygnea* | LC50 | 331284-381 | Varanka I., 1987 |
| *Anodonte anatina* | LC50 | 336290-388 | Varanka I., 1987 |
| *Cyprinus carpio (juvenile)* | LC50 | 340 | Verma et al., 1981 |
| *Dytiscus sp. (adult)* | LC50 | 350 | Konar S., 1969 |
| *Hydrophilus s.* | LC50 | 350 | Konar S., 1969 |
| *Mystus vittatis* | LC50 | 450 | Verma et al., 1983  |
| *Pila ovata* | LC50 | 540 | Ariole et al., 2013  |
| *Unio pictorum* | LC50 | 685583-795 | Varanka I., 1987 |
| *Anguilla anguilla* | LC50 | 852735-957 | Peña-Llopis et al., 2003  |
| *Puntius sophore* | LC50 | 1000 | Konar S., 1969 |
| *Ophiocephalus punctatus* | LC50 | 2300 | Verma et al., 1981 |
| *Trichogaster fasciatus(Adult)* | LC50 | 2420 | Konar S., 1969 |
| *Nandus nandus* | LC50 | 2600 | Konar S., 1969 |
| *Mastocembelus puncalus* | LC50 | 2630 | Konar S., 1969 |
| *Rita rita* | LC50 | 2750 | Konar S., 1969 |
| *Esomus danrica* | LC50 | 2810 | Konar S., 1969 |
| *Channa punctatus* | LC50 | 2880 | Konar S., 1969 |
| *Amphipnous cuchia* | LC50 | 3380 | Konar S., 1969 |
| *Macrognathus aculeatum* | LC50 | 3550 | Konar S., 1969 |
| *Saccobranchus fossilis* | LC50 | 6610 | Verma et al., 1983  |
| *Catls catla* | LC50 | 8200 | Rajput V. 2012 |
| *Clarias batrachus* | LC50 | 8880 | Verma et al., 1983  |
| *Anabas testudineus* | LC50 | 11740 | Konar 1969 |
| *Labeo rohita* | LC50 | 12355 | Konar S., 1969 |
| *Oreochromis mossambicus* | LC50 | 1280011200-14400 | Frumin et al., 1992 |
| *Heteropneustes fossilis* | LC50 | 17780 | Konar S., 1969 |
| *Bellamya dissimilis* | LC50 | 2089019960-23430 | Jannalagadda & Rao 1996 |
| *M. wesenbergii* | EC50 | 57711 | Sun et al., 2015 |

## **Table A3**. Chemical controls in acute assay.

Percentage of measured concentration (Cm) as ratio of Nominal concentration (Cn) in presented in first column. Three samples that belong to bigger organisms were measured respect to initial concentration and results are expressed as ratio between final concentration (Cf) and initial concentration (Ci).

|  |  |  |
| --- | --- | --- |
| Sample  | Cm/Cn | Cf/Ci |
| stock 80 mgL (Daphnia/Christalynus) | 0.98 | --- |
| stock 1000 mgL | 0.80 | --- |
| stock 10 mg,mL | 0.89 | --- |
| stock 800 mgL | 0.99 | --- |
| stock 1030 mgL  | 0.89 | --- |
| Snail L5 Ci | 0.85 | --- |
| C. riparius L6 Cf  | 0.78 | --- |
| Hyalella L5 Cf  | 0.92 | --- |
| Gamma L7 Cf | 0.88 | --- |
| Lemna L6 Cf | --- | 0.96 |
| Tubifex L6 Cf  | --- | 0.89 |

1. **Figure A1**. Standard curve obtained under HPLC-MS analysis. Concentration expressed as μg L-1.



1. **Table A5**. Hydrolysis half-life of dichlorvos at different pH and temperature values according to APVMA, 2008.



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